XR-U800RDS

SERVICE MANUAL

AEP Model

- Refer to another service manual RM-X32/X33 for XR-U800RDS supplied remote commander.

Model Name Using Similar Mechanism	NEW
Tape Transport Mechanism Type	MG-55PA-31

SPECIFICATIONS

Cassette player section

Tape track 4-track 2-channel stereo
Wow and flutter 0.06% (WRMS)
Frequency response 30 – 22,000 Hz
Signal-to-noise ratio

Cassette type	Dolby B NR	Dolby C NR	Dolby NR off
TYPE II, IV	67 dB	73 dB	61 dB
TYPE I	64 dB	70 dB	58 dB

Tuner section

FM

Tuning range 87.5 – 108.0 MHz
Antenna terminal External antenna connector
Intermediate frequency 10.7 MHz
Sensitivity 8 dBf
Selectivity 75 dB at 400 kHz
Signal-to-noise ratio 65 dB (stereo), 70 dB (mono)
Harmonic distortion at 1 kHz 0.5% (stereo), 0.3% (mono)
Separation 35 dB
Frequency response 30 – 15,000 Hz

MW/LW (SW, for the German model)

Tuning range MW: 531 – 1,602 kHz
LW: 153 – 281 kHz (AEP model)
SW: 5,950 – 6,205 kHz (German model)
Antenna terminal External antenna connector
Intermediate frequency 10.71 MHz/450 kHz
Sensitivity MW: 30 µV
LW: 50 µV (AEP model)
SW: 50 µV (German model)

General

Tone controls Bass ±8 dB at 100 Hz
Treble ±8 dB at 10 kHz
Power requirements 12 V DC car battery (negative ground)
Dimensions Approx. 186 × 57 × 163 mm (w/h/d) not incl. projecting parts and controls
Mounting dimension Approx. 182 × 53 × 146 mm (w/h/d) not incl. projecting parts and controls
Mass Approx. 1.1 kg
Supplied accessories Rotary commander (RM-X33) (1)
Mounting hardware (1 set)
Power connecting cord (1)
Front panel case (1)
Optional accessories Wireless remote commander RM-X36
UNILINK cable (supplied with an RCA pin cord)
RC-61 (1 m), RC-62 (2 m)
RCA pin cord RC-63 (1 m), RC-64 (2 m), RC-65 (5 m)
Optional equipment CD changer CDX-U606, CDX-U404, CDX-U303, etc.
Source selector XA-U20, XA-U40
Digital pre-amplifier XDP-U50D

Design and specifications subject to change without notice.

使用時は添付資料も参照のこと
Refer to the additional documents

FM/MW/LW(SW) CASSETTE CAR STEREO

SONY®

This section is extracted from instruction manual.

Features

General

- Supplied with **the rotary commander** which can be operated like a wiper or headlight switch of your car while driving.
- **Detachable-front panel** enables you to take the front panel away with you when you leave your car. (page 15)
- **Caution alarm** will be activated if you turn off the ignition key without removing the front panel from the unit.
- Switchable **two color illumination (amber and green)**. (page 9)
- Provided with a **digital 24-hour clock.** (page 16)
- Line outputs for connecting an optional power amplifier.
- **Telephone-mute function** for decreasing the volume automatically with a telephone call.

Tuner section

- Up to 40 stations can be preset: 20 stations FM and 10 stations each on MW and LW (SW, for the German model).
- **BTM (Best Tuning Memory) function** automatically searches and stores the station with the strongest signals on the preset number buttons in order of frequency. (Page 30)
- The information services of **FM RDS station** can be received. (page 34)
- Compatible with **the RDS features** such as **EON (Enhanced Other Networks), AF (Alternative Frequency), TA (Traffic Announcement)** and **CT (Clock Time) function.** (page 35)
- Provided with a **FM diversity reception system** for a better radio reception.

Cassette player section

- **Laser amorphous head** for clear sound reproduction.
- **Dolby B and C NR*** system reduces hiss noise during tape playback. (page 7)
- **Intro scan function** for playing the first 10 seconds of each track. (page 17)
- **Repeat play function** for playing back a currently playing track repeatedly. (page 17)
- **Blank skip function** for automatically skipping blank spaces during tape playback. (page 7)
- **ATA (Automatic Tuner Activation)** for automatically turning on the tuner while fast-forwarding or rewinding a tape. (page 7)

* Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation. "DOLBY" and the double-D symbol ⧈ are trademarks of Dolby Laboratories Licensing Corporation.

CD changer control section (when the optional Sony CD changers are connected)

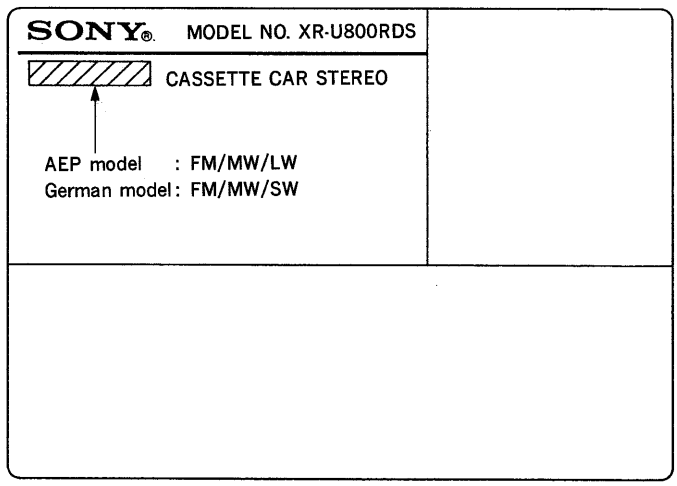
- **Several Sony CD changers (not supplied) can be connected and controlled** by the use of the Sony source selector(s) (not supplied).
- **Custom file function** for displaying the title of each disc and setting the PLAY/SKIP mode on each track. (page 22)
- **Shuffle play function** for playing tracks in random order. (page 19)
- **Intro scan function** for playing the first 10 seconds of each track. (page 21)
- **Repeat play function** for playing a currently playing track repeatedly. (page 20)

DSP control section (when the optional digital signal processor XDP-U50D is connected)

- **Surround menu** enables you to select different soundfields inside your car.
- **DSP custom file function** enables the discs to be played in the customized DSP modes. (page 48)
- **LSM function** enables the programs to be played with the preset surround menu. (page 50)

MODEL IDENTIFICATION

—Model Number Label—



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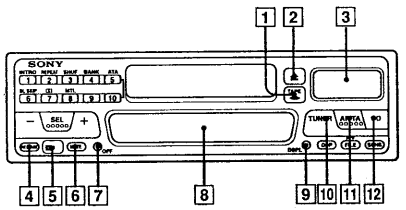
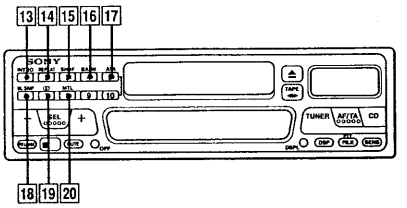
SECTION 1
GENERAL

This section is extracted from instruction manual.

Location and Function of Controls

Main Unit





Refer to the pages in ● for details.

1 **TAPE/◄II► (playback/transport direction change) button** ⑰

2 **≜ (eject) button**

3 **Sub (current mode) display window**
Displays the currently selected program source (tape/CD/FM/MW/LW (SW)) and the DSP mode.

4 **RELEASE (front panel release) button** ⑮

5 **Receptor for the remote commander**

6 **MUTE button**
Press to mute the sound momentarily. Press again to restore the same volume level. This button is also canceled in the following cases:
— when the + side of the [−/+] button or the OFF button is pressed.
— when ejecting a cassette by pressing the ≜ button during tape playback.
— when the ignition key of your car has been turned to the OFF position for more than eight seconds.

7 **OFF button**
Press to turn off the unit.

8 **Main (current operation) display window**
Displays the information of the currently selected program source such as the tape transport direction, the elapsed playing time of a disc and the current time etc.

9 **DSPL (display mode change/time set) button** ⑯
Each time the button is pressed, the display on the main display window changes as follows:

	"PLAY" → "PLAY" (The indication will be scrolled.) → Clock (Clock → Frequency)*1
	Elapsed playback time → Disc title*2 → Clock
A	Frequency → Clock
*3	

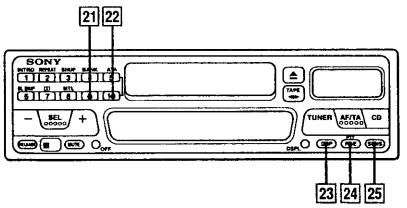
*1 While the ATA function is activated.
*2 If the title has not being registered, "- - - - - - - -" indication will appear on the main display window.
*3 See page 37 about the display modes when the RDS function is in operation.

10 **TUNER (radio on/band select) button**
Each time the button is pressed, the band changes in order of:
FM1 → FM2 → MW → LW (SW, for the models for Germany, Switzerland and Austria).

11 **AF/TA (alternative frequency/traffic announcement) button**
Each time the button is pressed, the function changes in order of:
AF → TA → AF/TA → none → AF.

12 **CD (disc play/CD changer select) button** ⑱

13 **INTRO button** (1)	Intro scan ⑰㉑		Preset number buttons ㉒㉓
14 **REPEAT button** (2)	Repeat play ⑰⑳		
15 **SHUF button** (3)	—	Shuffle play ⑲	
16 **BANK button** (4)	—	Bank play ㉗	
17 **ATA button** (5)	**Automatic Tuner Activation** Press to make the tuner turn on automatically every time you fast-wind a tape. To cancel, press it once more.	—	
18 **BL.SKIP button** (6)	Press to skip a blank space (longer than eight seconds) automatically during tape playback. To cancel, press it once more.	—	
19 **DD (Dolby NR) button** (7)	Press when listening to a tape recorded in the Dolby B-NR or Dolby C-NR system. Each time you press the button, the mode changes as follows: Dolby B-NR → Dolby C-NR → Cancel.	—	
20 **MTL (metal/CrO2) button** (8)	Press when listening to a CrO_2 (TYPE II) or metal (TYPE IV) tape. To cancel, press it once more.	—	



21 (9)	—	—	Preset number buttons ㉒㉓
22 (10)	—	—	

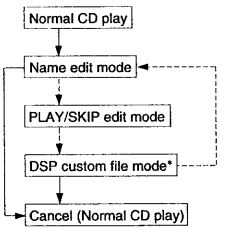
The buttons 13 – 22 function as the direct disc selection buttons as well during CD play.
Press the button whose number corresponds with the desired disc number for more than one second.

23 **DSP* (DSP mode on • off/select) button**
When pressed lightly, this button functions as the DSP mode on/off button. When pressed for more than one second, the unit enters the DSP select/adjust mode. Each time the button is pressed, the DSP select/adjust mode and the display on the sub display window changes as shown on the right:

• Digital Signal Processor

Sub display window	DSP select/adjust mode
SUR	Surround menu select/ Effect level adjustment
LP	Listening position adjustment
SUB	Subwoofer tone/volume adjustment
BAS	Bass adjustment
TRE	Treble adjustment

24 **FILE (custom file mode select • set/list up)/PTY (program type) button** ㉕㉙
Each time the button is pressed, the mode changes as follows:
►: Press the button for more than two seconds.
►: Press the button lightly.



• The unit enters this mode only when the DSP custom file function is activated.

25 **SENS (sensitivity adjust/best tuning memory function) button** ㉘㉚

Changing the illumination color

Press the (1 INTRO) button while pressing the (SEL) button. You can choose the color between amber and green.

When listening at low volume with enhanced bass and treble (loudness function)

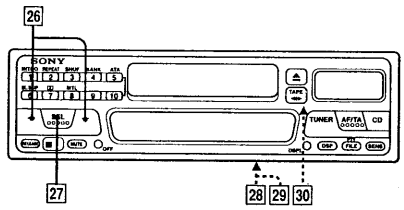
Press the (2 REPEAT) button while pressing the (SEL) button. To cancel the mode, press these buttons once more. (When the optional digital signal processor XDP-U50D is connected, you cannot use this function.)

Muting the beep tone

Press the (6 BL.SKIP) button while pressing the (SEL) button. To obtain the beep tone again, press these buttons once more.

Changing the line output level (when the optional digital signal processor XDP-U50D and a graphic equalizer are connected)

Press the (8 MTL) button while pressing the (SEL) button. To cancel the mode, press these buttons once more.



26 **(sub output level/bass/treble/balance/fader/volume control) button**
Press to adjust each mode.

27 **SEL (control mode select) button**
Press to select the desired control mode: SUB (sub), BAS (bass), TRE (treble), BAL (balance), FAD (fader) or VOL (volume).

Sub display window	Control mode	(−/+) Press − side	(−/+) Press + side
SUB	SUB output level control	For less volume	For more volume
BAS	Bass control*1	For less bass	For more bass
TRE	Treble control*1	For less treble	For more treble
BAL	Balance control*2	To decrease the right-speakers' volume	To decrease the left-speakers' volume
FAD	Fader control*1,3	To decrease the rear-speakers' volume	To decrease the front-speakers' volume
VOL	Volume control	For less volume	For more volume

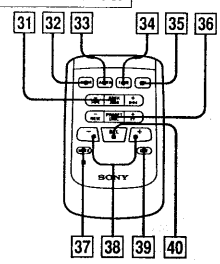
*1 The level of the SUB output cannot be adjusted.
*2 The level of the SUB output can be adjusted as well.
*3 • When the optional digital signal processor XDP-U50D is connected, you can adjust the fader whether the DSP mode is on or off.
• When you use the stereo graphic equalizer (not supplied), set the fader control to the center position and adjust the level with the equalizer.

28 **POWER SELECT switch (located on the bottom of the unit)**
See "POWER SELECT Switch" in the installation/connections manual.

29 **FM DIVERSITY switch (located on the bottom of the unit)**
See "FM DIVERSITY Switch" in the installation/connections manual.

30 **Reset button (located on the front side of the unit hidden by the front panel)**
Press this button when you use this unit for the first time, when you have changed the car battery, or when the buttons of this unit do not function properly.

Optional Wireless Remote Commander



Buttons of the same function as those on the main unit

32 **TUNER (radio on/band select) button**
33 **AF/TA (alternative frequency/traffic announcement) button**
34 **TAPE (playback/transport direction change) button**
35 **CD (disc play/CD changer select) button**
37 **MUTE button**
38 **(−/+) (sub output level/bass/treble/balance/fader/volume control) buttons**
39 **OFF button**
40 **SEL (control mode select) button**

Different function buttons

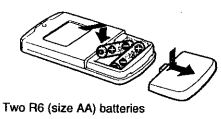
	CD	TAPE	TUNER
31	**AMS (Automatic Music Sensor) button*** +: Press once to locate the beginning of the next track. −: Press once to locate the beginning of the currently playing track. Press repeatedly to locate previous or succeeding tracks.		**SEEK (automatic tuning) button***
36	**FF/REW (fast-forward/rewind) button**	**DISC (disc change) button** +: To select the next disc number −: To select the previous disc number	**PRESET (preset search) button**

* You cannot do the manual search and manual tuning with the remote commander.

When the POWER SELECT switch is set to the OFF position, the unit cannot be operated with the wireless remote commander unless the CD or TUNER button on the unit is pressed or a cassette is inserted to activate the unit first.

Optional Wireless Remote Commander

Installing the Batteries



Two R6 (size AA) batteries

Battery life
When the batteries become weak, you will not be able to operate the unit with the remote commander. Battery life is approx. six months although it depends on the way of use.

Notes on batteries
To avoid damage from battery leakage and corrosion:
— insert the batteries with correct polarity
— do not use an old battery with a new one, or different types of batteries together
— remove the batteries when you do not use the unit for a long period of time
— do not charge the batteries.
If any battery leakage occurs, replace the batteries with new ones after cleaning the battery compartment.

Notes on the Remote Commander

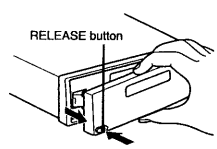
- Do not leave the remote commander in a location near any heat sources, or in a place subject to direct sunlight (especially on the dashboard in summer, etc.).
- When you park the car in direct sunlight, place the remote commander in a location not subject to direct sunlight such as the glove-box.

Detaching and Attaching the Front Panel

The front panel of this unit can be detached in order to prevent the unit from being stolen.

Detaching the Front Panel

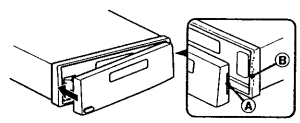
Before detaching the front panel, be sure to press the OFF button first. Then press the RELEASE button to open up the front panel and detach the panel by pulling it towards you as illustrated.



Be sure not to drop the panel when detaching it from the unit.

Attaching the Front Panel

Apply the right hand side of the front panel to the unit by attaching part Ⓐ of the front panel to part Ⓑ of the unit as illustrated and push until it clicks.

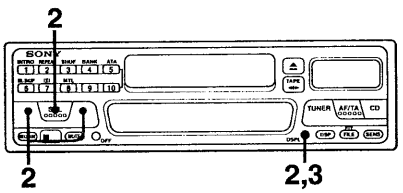


Caution alarm

If you turn the ignition key to the OFF position without removing the front panel, the caution alarm will be activated and a beep tone will be heard for a few seconds (only when the POWER SELECT switch is set to the ON position).

Notes
- Make sure that the front panel is the right way up when attaching it to the unit as it cannot be attached upside down.
- Do not press the front panel hard against the unit when attaching it to the unit. It can easily be attached by pressing it lightly against the unit.
- When you carry the front panel with you, put it in the supplied front panel case.
- Do not press hard or give excessive pressure to the display windows of the front panel.
- Before removing the front panel, be sure to turn the power off. However, if you press the RELEASE button to detach the panel while the unit is still turned on, the power will be automatically turned off in order to protect the speakers from being damaged.
- Do not expose the front panel to direct sunlight, heat sources such as hot air ducts or leave it in a humid place. Never leave it on the dashboard etc. of a car parked in direct sunlight where there may be a considerable rise in temperature inside the car.

Setting the Clock



The clock has a 24-hour digital indication.

For example, to set it to 10:08.

1 **Turn the ignition key to the ON position.**

2 **Press the DSPL button for more than two seconds.**

DSPL ○ ➡ 0:00

While keeping the DSPL button pressed, proceed with the following;

Press either side of the ⏮⏭ button to set the hour digits. (to go back) (to go forward)

10:00

Press the SEL button.

Press either side of the ⏮⏭ button to set the minute digits. (to go back) (to go forward)

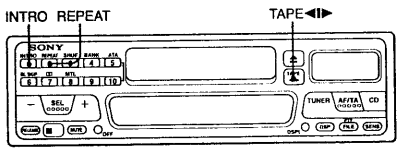
10:08

3 **The clock starts activating when you take your finger off the DSPL button.**

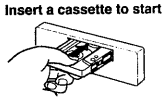
10:08

Note
If the POWER SELECT switch on the bottom of the unit is set to the OFF position, the clock cannot be set unless the power is turned on. Set the clock after you have turned on the radio, or start CD play or tape playback.

Listening to Tape Playback



Insert a cassette to start playback.



➡ TAPE

If a cassette is already inserted

TAPE ◀II▶ or

Playing in Other Modes

Listening to the first 10 seconds of each track — Intro scan function

Press the INTRO 1 button during playback.

The first 10 seconds of all the tracks are played. When you find the desired track, press the button once more. The unit returns to the normal playback mode.

Listening to the currently playing track repeatedly — Repeat play function

Press the REPEAT 2 button during playback.

When the currently playing track is over, the same track is played again from the beginning. To cancel this mode, press the button once more.

You can use the optional wireless remote commander as well.

Tape transport direction indication
Press the DSPL button during tape playback.

◀◀ ▶ PLAY

The "PLAY" indication will be scrolled across the main display window from left to right while the top side of the cassette is being played back.

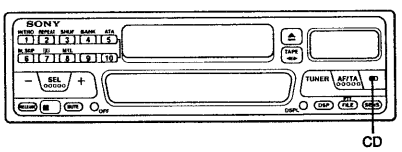
◀◀ PLAY

The "PLAY" indication will be scrolled across the main display window from right to left while the reverse side of the cassette is being played back.

Note
The intro scan function will be canceled if you turn off the unit by pressing the OFF button or turning the ignition key to the OFF position and leaving it for more than eight seconds.

Listening to CD Play

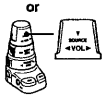
(With the Optional CD Changer(s) Connected)



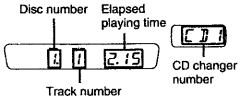
Press the CD button.

CD

or



➡

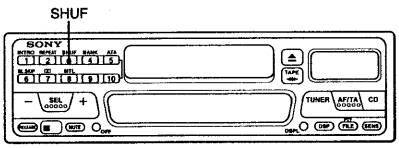


CD play starts.

You can use the optional wireless remote commander as well.

If the unit is set in the normal playing mode, after the end of a disc, the disc with the next number shown will be automatically played. If two or more CD changers are connected, after the end of the last disc, the first disc in the CD changer with the next number shown will be played. The order of the CD play can be rearranged by changing the playing modes. For details, see "Playing in Other Modes" (page 19).

Playing in Other Modes



Playing the Discs Randomly

— Shuffle Play Functions

Playing the tracks on the currently selected disc randomly — Disc shuffle play

Press the SHUF 3 button lightly to get the "SHUF 1" indication during CD play.

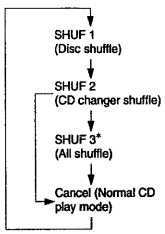
Playing every track on every disc in the currently selected CD changer randomly — CD changer shuffle play

Press the SHUF 3 button lightly to get the "SHUF 2" indication during CD play.

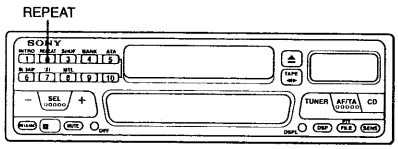
Playing every track on every disc in all the CD changers connected randomly — All shuffle play (when two or more CD changers are connected)

Press the SHUF 3 button lightly to get the "SHUF 3" indication during CD play.

The function of the SHUF button changes cyclically as follows:



* All-shuffle play (SHUF 3) mode functions only when two or more changers are connected to the unit. When only one changer is connected, the "SHUF 3" indication will not be displayed.
In this case, if you press the SHUF button again while the "SHUF 2" indication is being displayed, the shuffle play will be canceled.



Playing a Disc Repeatedly
— Repeat Play Functions

Playing the currently selected track repeatedly — Track repeat

Press the REPEAT 2 button lightly to get the "REP 1" indication during CD play.

Playing the currently selected disc repeatedly — Disc repeat

Press the REPEAT 2 button lightly to get the "REP 2" indication during CD play.

When the last track on the currently selected disc is over, the CD play is repeated from the beginning of that disc.

Playing the discs in the currently selected CD changer repeatedly — CD changer repeat (when two or more CD changers are connected)

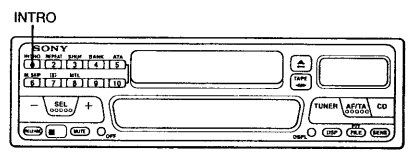
Press the REPEAT 2 button lightly to get the "REP 3" indication during CD play.

When the last disc in the CD changer has been played, the CD play will be repeated from the first disc in the currently selected CD changer.

The function of the REPEAT button changes cyclically as follows:

REP 1 (Track repeat)
↓
REP 2 (Disc repeat)
↓
REP 3* (CD changer repeat)
↓
Cancel (Normal CD play mode)
↓
(back to REP 1)

* CD changer repeat (REP 3) mode functions only when two or more CD changers are connected to the unit. When only one CD changer is connected, the "REP 3" indication will not be displayed. In this case, if you press the REPEAT button again while the "REP 2" indication is being displayed, the repeat mode will be canceled.



Listening to the First 10 Seconds of Each Track — Intro Scan Function

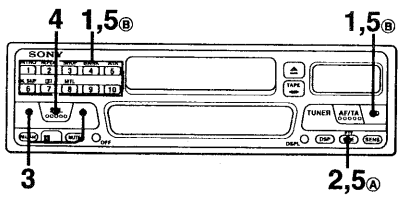
Press the INTRO 1 button lightly during CD play.

The first 10 seconds of all the tracks on the currently selected disc are played in order. After the first disc is played with the intro scan function, the next disc is played. When two or more CD changers are connected, after the last disc is played, CD play moves on to the next CD changer.

When you find the desired track, press the INTRO button once more.
The unit returns to the normal CD play mode.

If the INTRO button is pressed during shuffle play, the first 10 seconds of every track will be played randomly.

Displaying the Title of Each Disc
— Disc Memo Function



You can put a title of your own choice onto a disc (one title per disc). The title can be displayed on the main display window while the disc is being located and played.

Putting Your Personalized Titles onto the Discs

1 Play the disc that you wish to title.

CD → INTRO 1 — 10 → [D i

(Press for more than one second.)

2 Press the FILE button for more than two seconds to enter the name edit mode.

PTY FILE → _ _ _ _ _ _ _

Name edit mode

3 Press either side of the [−/+] button to select the desired characters.

Each time you press either side of the [−/+] button, characters appear in the following order:

[−/+] → _ → A → B → C → ... → X → Y → Z → 0 → 1 → 2 → 3 → ...

[−/+] → _ → \ → (→) → \ → / → # → − → + → 9 → ...

_ _ _ _ _ _ _

You can use the supplied rotary commander or the optional wireless remote commander as well.

4 Press the SEL button after locating the desired character.

SEL → _ _ _ _ _ _ _

The flashing part moves to the next space on the right. Repeat steps 3 and 4 to enter the entire titles. Up to eight characters can be used per disc.

5 Ⓐ To return to the normal CD play mode

PTY FILE

Press the FILE button for more than two seconds.

Ⓑ To continue to put titles onto the discs

CD or INTRO 1 — 10

(Press for more than one second.)

Notes
- If you press the SEL button when the eighth character (farthest right character) is flashing, the flashing part goes back to the first character (farthest left character).
- If you wish to put a blank space after a character, select "_" (under-bar).

If you press the CD button, the next CD changer will be selected. (when two or more CD changers are connected)

Changing a title

Play the disc whose title you wish to change and repeat steps 2 to 5.

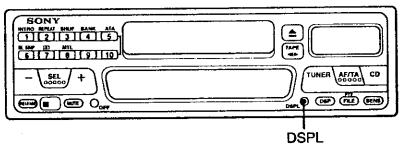
Erasing a title

1 **Select the CD changer and play any disc.**
2 **Press the FILE button for more than two seconds to enter the name edit mode.**
3 **Press the SEL button while pressing the preset number button 5.**
4 **Press either side of the [−/+] button to select the title that you wish to erase.**
5 **Press the SEL button for more than two seconds.**
Repeat step 4 and step 5 if necessary.
6 **Press the FILE button for more than two seconds.**
Now the title and the PLAY/SKIP settings are erased.
The unit returns to the normal CD play mode.

When you change the title, the PLAY/SKIP settings of the bank function or any setting of DSP custom file function will not be erased at the same time.

If you erase the title, the PLAY/SKIP settings of the bank function and the settings of DSP custom file function will be erased as well.

The alternative method to erase a title
You can erase a title by selecting eight "_"s (under-bars) as described in step 3 of "Putting Your Personalized Titles onto the Discs" (page 22).



Displaying the Title

Press the DSPL button.

DSPL ○ ➡ SCHUBERT

Title display modes

While loading the discs, whatever the display mode the unit is in, the indication on the main display window automatically changes as follows:

→ The title of the disc (two seconds) → Disc and track number (two seconds) → Currently selected display mode (two seconds)

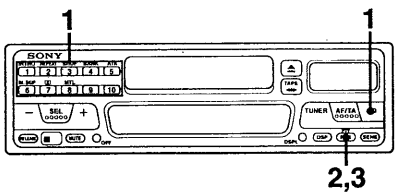
Custom file function

You can register the customized titles and the PLAY/SKIP settings on up to 110 discs* per CD changer (custom file function). These settings are stored in the memory of the CD changer. Therefore, even if you take a custom-filed disc out of the CD changer, you can still use the same custom file function the next time you play that disc in the same CD changer. Furthermore, if your system has several CD changers connected, you can play that disc in another CD changer and still use the same custom file function, provided that the CD changers are inter-connected with the UNILINK cables.

* If you try to register more than 110 discs, the unit will display the "FULL" indication and will not accept the command for custom-filing. In this case, you will have to erase the memory of other discs before you enter the new ones (page 23).

Note
The registered titles of the discs may not appear on the main display window immediately while it is being loaded inside the CD changer.

Playing Selected Tracks on a Disc
— Bank Function



Setting the Play and Skip Modes on the Discs

1 **Play the disc to which you wish to set these modes.**

CD → INTRO 1 — 10 ➡ CD 1

(Press for more than one second.)

2 **Press the FILE button for more than two seconds and put the titles onto the discs.**

PTY FILE

See page 22 for details about putting on a title. If the title has already been registered, go to step 3.

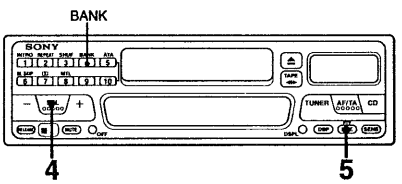
3 **Press the FILE button lightly to enter the PLAY/SKIP edit mode.**

PTY FILE ➡ 5. 1 PLAY

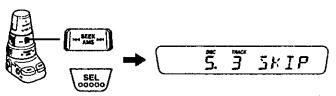
PLAY/SKIP edit mode

You can use the supplied rotary commander or the optional wireless remote commander as well.

Notes
- When the title is not registered, you cannot enter the PLAY/SKIP edit mode even if you press the FILE button.
- You can only set the "SKIP" mode onto up to 24 tracks. If a disc has more than 24 tracks, you will not be able to set the "SKIP" mode on the tracks after the 24th track.
- You cannot set the "SKIP" mode onto all of the tracks on a disc.



4 **Rotate the AMS control on the rotary commander to select the track number you wish to skip and press the SEL button on the unit.**



The indication changes from "PLAY" to "SKIP". If you wish to return to "PLAY", press the SEL button once more.

Repeat the operation in this step to set either the "PLAY" or "SKIP" mode on all the tracks.

5 **Press the FILE button for more than two seconds.**

PTY FILE

The unit returns to the normal CD play mode.

Playing with the Bank Function

Press the BANK button lightly during CD play.

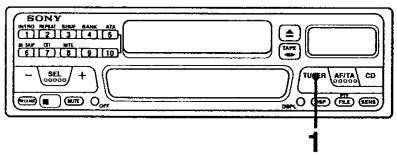
BANK 4 ➡ BANK ON

The "BANK" indication appears on the main display window. The unit starts playing the tracks with "PLAY" settings which have been set by the PLAY/SKIP edit mode.
To return to the normal CD play mode, press the BANK button once more.

When the BANK button is pressed while pressing the SEL button, the unit starts playing the tracks with "SKIP" settings which have been set by the PLAY/SKIP edit mode.
To go back to the normal playing mode, press the BANK button again while pressing the SEL button.

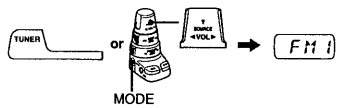
Even when you play a disc with the PLAY/SKIP settings, if the "BANK" indication has not appeared on the main display window, the disc will not be played according to the settings.

Tuning in a Station

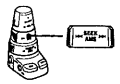


Searching for the Stations Automatically
— Automatic Tuning

1 **Select the desired band.**

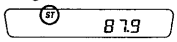


2 **Rotate the SEEK control on the rotary commander.**



You can use the optional wireless remote commander as well.

When an FM stereo program with a sufficient signal strength is tuned in



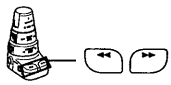
The "ST" indication will appear.

Avoiding the automatic tuning from stopping on stations too frequently (Local Seek Mode)
Press the SENS button lightly to get the "LCL" indication. Only the stations with relatively strong signals can be tuned in. The local seek mode functions only when the Automatic Tuning is in operation.

If FM stereo broadcasting is difficult to receive (Monaural Mode)
Press the "MONO" indication. The sound will improve, but it will become monaural.

Tuning in by Adjusting the Frequency
— Manual Tuning

Select the desired band, then press and hold either of the ◀◀/▶▶ buttons on the rotary commander.

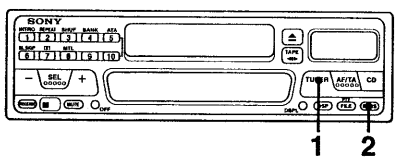


Release the button when the desired station is received.

PREVENTING ACCIDENTS!

While you are driving, the use of the Automatic Tuning and the Memory Preset Tuning is recommended in favor of the Manual Tuning.

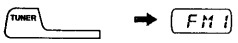
Memorizing the Stations Automatically



The best receiving stations are automatically searched and memorized on each band (FM1, FM2, MW and LW (SW)). Up to 10 stations on each band can be stored on the preset number buttons 1 to 10 in order of frequency.

Memorizing the Stations Automatically
— BTM (Best Tuning Memory) Function

1 **Select the desired band.**



2 **Press the SENS button for more than two seconds.**

(SENS)

You can use the supplied rotary commander or the optional wireless remote commander as well.

The receivable frequency ranges of the FM bands (FM1, FM2) are the same
Therefore, 20 stations can be memorized on FM.

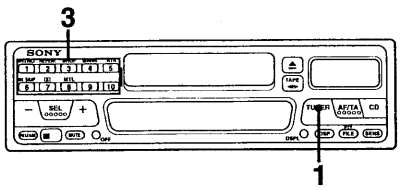
Note
There may be cases where there are not enough receivable stations due to the lack of stations in the vicinity or weak broadcasting signals. In such cases, the BTM operation may stop without all the buttons being occupied with memories.

The BTM function

The BTM function searches all the receivable stations within the currently selected band and memorizes the ones in good receiving conditions in sequence from the lowest frequency.

How to memorize the stations on the preset number buttons
— When there is no preset number indicated on the main display window, all the preset number buttons set in the currently selected band will be filled with the memories.
— When there is a preset number indicated on the main display window, the unit will memorize the stations on the preset number buttons from the one currently being displayed. For example, when you choose FM2 and preset number 3 is being displayed, the operation will start from preset number 3 on FM2, and will stop at preset number 10 on FM2.

Memorizing Only the Desired Stations



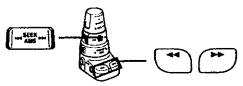
Up to 10 stations on each band (FM1, FM2, MW and LW(SW)) can be stored on the preset number buttons in order of your choice.

For example, to store a station on preset number button 1.

1 **Select the desired band.**

TUNER → FM 1

2 **Tune in the station which you wish to store on the preset number button.**



3 **Press the preset number button for about two seconds until a beep tone is heard.**

INTRO 1 → 1 87.9

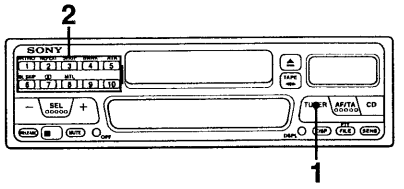
The number of the pressed preset number button now appears on the main display window.

Repeat the same procedure to store other stations.

You can use the supplied rotary commander or the optional wireless remote commander as well.

Each preset number button has only one memory location per band
If you try to store another station on the same preset number button, the previously stored station will be erased.

Receiving the Memorized Stations



1 **Select the desired band.**

TUNER → FM 1

2 **Press the desired preset number button lightly.**

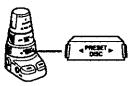
INTRO 1 — 10

You can use the supplied rotary commander or the optional wireless remote commander as well.

Notes
- There may be cases where even the stations which are stored in the memory cannot be received due to weak signals in the vicinity of your car.
- If you keep pressing the preset number button for more than two seconds, the currently received station will be memorized once more. To receive the previously memorized station, make sure that the preset number button is pressed only lightly.

Receiving in Order the Stations Stored in the Memory — *Preset Search Function*

Rotate and hold the PRESET control on the rotary commander.



You can search the memorized stations on the preset number buttons in order.
Release the PRESET control when the desired station is located.

You can use the PRESET button on the optional wireless remote commander as well.

Overview of the RDS Function

What is RDS?

The RDS (Radio Data System) is a radio digital information system developed and introduced in 1987 by the EBU (European Broadcasting Union). Using the 57 kHz sub-carrier of FM broadcasting, the RDS enables you to receive a variety of information such as station names and traffic information. It also offers some useful functions such as automatic re-tuning of the best available signal carrying the chosen program.
However, the availability of the RDS data is varied in different areas. Therefore, there may be cases where you may not be able to receive some of the following data.

The RDS digital data includes the following:

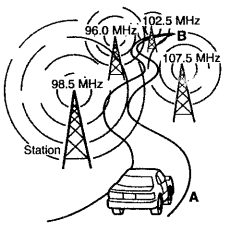
PI	Program Identification
PS	Program Service Name
AF	List of Alternative Frequencies
TP	Traffic Program
TA	Traffic Announcement
PTY	Program Type
EON	Enhanced Other Networks
CT	Clock Time

The following functions are available with this unit using the RDS data. See the marked pages for the operational instructions.

Station Service Name Display *(page 37)*

This function displays the name of the station which is currently tuned in on the main display window.

BBC R1



Automatic Retuning — *AF Function (page 38)*

This function automatically retunes in a station with a relatively stronger signal within the same broadcasting network using the PI and AF data.
The illustration above shows an example of a car passing through an area with four stations of the same broadcasting network between points A and B.
As the car moves on, the reception frequency of the station in the network changes from 98.5 MHz to 107.5 MHz then to 96.0 MHz and to 102.5 MHz.
By using the AF function, the driver will be able to keep listening to a program in the same broadcasting network without tuning in the station manually every time he enters a different frequency zone between points A and B.

Receiving Traffic Announcements — *TA Function (page 40)*

This function searches and stands by for a traffic information station using the TP and TA data.
Using this function, the unit automatically searches the station and changes its mode to receive the traffic announcement when the broadcasting starts while you are listening to tape playback or CD play.

Enhanced Other Networks
— EON Function (pages 39 and 40)

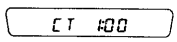
The EON function extends the faculty of the TA and TP functions by enabling the unit to track other stations transmitting the EON data while it is tuned to a network station.

Note
Even if you are listening to a network station, the unit will automatically monitor other EON stations. When there is another traffic announcement, the unit will automatically tune to that station and will retune to the previous station when the broadcast is over.

Setting the Clock Using the CT Function of the RDS

The CT function of the RDS enables the built-in clock in the unit to automatically synchronize with the CT data being received by the tuner section of the unit.

To activate the CT function, press the [7] button while pressing the SEL button. The "CT" indication appears on the main display window.

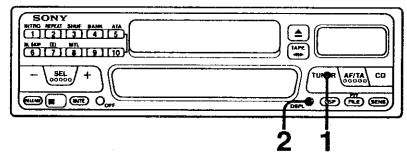


To cancel the function, press these buttons once more.

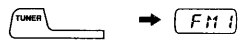
If the CT function is being activated while you adjust the clock manually, the clock will be automatically adjusted by the CT data the next time the unit receives it.

Note
There may be cases when the CT function may not be activated even if an RDS station is being received.

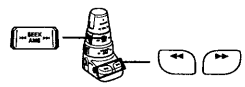
Station Service Name Display



1 **Select the FM band.**



2 **Tune in a desired station by using the Automatic Tuning or Manual Tuning (page 28 or 29).**



If the unit is set in the station service name display mode and a station transmitting the RDS data is received, the name of that station will be displayed on the main display window.

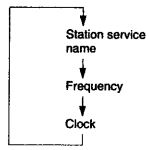
When the "- - - - - - - -" indication appears on the main display window in the station service name display mode:
The received station is not an RDS station.

When the unit is in the frequency display mode and an RDS station is received:
The "✱" display appears to indicate that an RDS station is received. To find out the name of the station, press the DSPL button to change the display mode.

You can use the supplied rotary commander or the optional wireless remote commander as well.

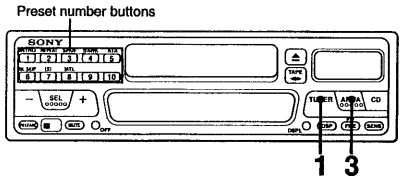
Notes
- The RDS data can be received only on the FM band.
- The RDS functions of this unit will not be activated if the FM station being received is not transmitting the RDS data. It may also not work properly in areas where the RDS transmissions are in the experimental stage.

You can change the display mode by pressing the DSPL button
Each time you press the button, the display mode changes as follows:

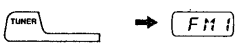


Automatic Retuning — AF Function

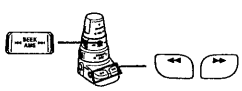
Preset number buttons



1 **Select the FM band.**



2 **Tune in a desired RDS station by using the Automatic Tuning or Manual Tuning (page 28 or 29).**



3 **Press the AF/TA button to get the "AF" indication.**

The unit begins to search for an alternative station with a stronger signal in the same network from the AF data (List of Alternative Frequencies). If a stronger signal station is found, the unit retunes in that station. If no strong station is found, both the "NO AF" and the program station name indications flash.

You can use the supplied rotary commander or the optional wireless remote commander as well.

Notes
- When the "AF" indication appears on the main display window, only the RDS stations can be tuned in by the Automatic Tuning.
- If the tuned in RDS station is not transmitting the AF data, this function will not work.
- If you press the AF/TA button while the MW or LW (SW) band is being tuned in, the FM1 band will be automatically selected.

Selecting REG ON or REG OFF

Press the AF/TA button for more than two seconds. The unit gives a confirmation beep. The "REG ON" or "REG OFF" indication appears on the main display window. (There may be cases that this function may not be activated in some areas especially outside Germany.)

Regional Programs
Sometimes a national radio network broadcasts regional programs. With the RDS function, you can switch the "regional checking" function to on (REG ON) or off (REG OFF).
REG ON: The tuner remains tuned to the current regional program.
REG OFF: The tuner may retune to another regional program in the network.

Network Stations Memory

When the unit stores an RDS station transmitting the AF data on a preset number button, it stores not only its frequency but also its PI, AF, PS and PTY data. The AF data carries the information of the list of the frequencies of the stations within the same broadcasting network. The unit will store the data in its memory whether the AF function is activated or not.

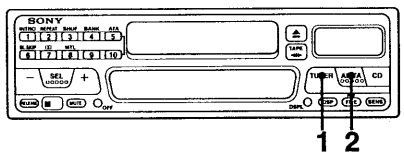
Getting the Stored RDS Stations in Tune from the Broadcasting Networks

Be sure to press the preset number buttons after pressing the AF/TA button to activate the AF function. The AF function will select a better signal station by retuning within the network stations. If you press the preset number buttons without activating the AF function, you will not be able to use this function. In this case, you will only get the individual stations which were tuned in on the previous occasion. The unit will not retune to the other stations in the network even if they are stored in the memory.

RDS Stations Transmitting the EON Data

The EON data incorporates the AF data of other stations as well. Therefore, the unit can update the AF data of the preset stations and these stations will be tuned in the next time the preset number buttons are pressed.

Receiving Traffic Announcements — TA Function



Receiving a Traffic Information Station

1 **Select the FM band.**

TUNER → FM 1

2 **Press the AF/TA button to get the "TA" indication.**

AF/TA

The search for a traffic information station starts. When an RDS station transmitting the TP data is found, the search stops and the "TP" indication appears on the main display window.

The "TA" indication flashes while the traffic announcement is on the air. It stops flashing when the announcement is over.

To search another RDS station transmitting traffic announcements
Turn the SEEK/AMS control on the rotary commander while the "TA" indication is still on the main display window.

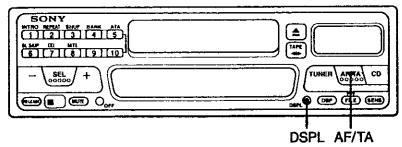
If the TA function is activated while the unit is receiving a station which is transmitting the EON data, the "TA", "TP" and "EON" indications will appear on the main display window. In this case, if another station starts broadcasting a traffic announcement, the unit will automatically tune to that station. When the announcement is over, the unit will retune to the previous station.

You can use the supplied rotary commander or the optional wireless remote commander as well.

Notes
- Do not activate the TA function in an area where there is no traffic information broadcasting service available. If you do so, the unit will keep searching for it and other stations cannot be tuned in.
- If you activate the TA function while the MW or LW (SW) band is tuned in, the FM1 band will be automatically selected and the unit will start searching for a traffic information station.
- When the traffic information station cannot be received, after the "NO TP" indication flashes for approx. four seconds, the unit will begin to search automatically for a station whose traffic information can be received.

"TP" indication
This indicates that the currently tuned in RDS station offers a traffic information service.

"EON" indication
This indicates that the unit is receiving the station transmitting the EON data.



Standing by for Traffic Announcements While Listening to a Tape or CD

Press the AF/TA button to get the "TA" indication during tape playback or CD play.

AF/TA

Tape playback or the CD play continues while the unit searches for a traffic information station.

When a station is found:
The "TP" indication appears on the main display window.

↓

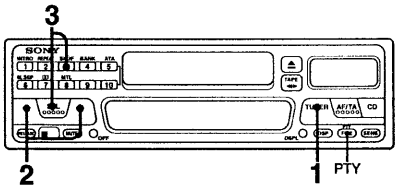
When a traffic announcement starts:
The "TA" indication starts flashing. Tape playback or the CD play stops and the traffic announcement is heard.

↓

When the announcement is over:
Tape playback or the CD play resumes from where it was left off.

To cancel the stand-by mode
Press the AF/TA button to turn off the "TA" indication.

Changing the display to that of the frequency or station name during tape playback or CD play
Press the DSPL button a few times. While the frequency or station service name is being displayed, the SEEK/AMS, PRESET/DISC controls and the ◄◄/►► buttons on the rotary commander and preset number buttons on the unit will function in the same way as they do during a radio reception.



Traffic Announcements are Heard at the Preset Volume Level

When a traffic announcement starts, you can hear it at the preset volume level even if the volume control on the front panel has been turned down. (If you are listening to other sources with a higher volume level, the level will not change.) The preset volume level can be set in the following manner.

1 Select the FM band.
2 Adjust the volume to the desired level.
3 Press preset number button 3 while pressing the SEL button.
A beep tone is heard when the setting has been completed.

PTY (Program Type) Data and the Emergency Announcement Reception

It is essential that the built-in micro computer has memorized the necessary RDS data in advance.

Press the PTY button to get the "PTY" indication displayed on the sub display window during FM reception.

If an RDS station transmitting the PTY data is received, the name of the PTY data currently being received will be displayed on the main display window. The PTY data names include "NEWS", "AFFAIRS", "INFO" etc. The PTY data name and the "PTY" indication will disappear within five seconds.

To receive another station broadcasting the same or different PTY data
Ⓐ If the "PTY" indication is being displayed:
Turn the SEEK/AMS control on the rotary commander.
Ⓑ If the "PTY" indication is not being displayed:
Press the PTY button to get the "PTY" indication displayed, then turn the SEEK/AMS control on the rotary commander.

In case of an emergency, or in a situation where there may be danger from a natural disaster in the area, the RDS stations will transmit the PTY data information to warn drivers that they are in danger. The emergency data includes the character display and the interruption signal for automatically turning on the radio. **This data can only be received while the AF or TA function is being activated.**
If the unit receives the emergency data from an RDS station during tape playback or CD play, the "AF" indication on the main display window will start flashing and tape playback or the CD play will stop. The radio will be automatically turned on to receive the emergency announcement from the station.

Notes
- The PTY function may not be activated immediately after the unit is used for the first time. This is because the unit has not yet memorized some of the RDS data necessary to utilize the PTY function. It is also possible that the stations in your vicinity is not transmitting the PTY data.
- With the PTY function on, the unit receives the available PTY data such as: NEWS, AFFAIRS, INFO, SPORT etc. If a specific data is not available during a search, the "NO DATA" indication will be displayed and if there is no PTY data available at all, the "NONE" indication will be displayed on the main display window.

Overview of the DSP Function

If the optional DSP (Digital Signal Processor) is connected, you can add some effects to the soundfield of the currently listening program source.

What is a Digital Signal Processor (DSP)?

The DSP can digitalize and process the audio signal with high speed thus enabling you to adjust the acoustic characteristics of the source sound without losing the sound quality. With the DSP unit you can control and adjust the direct, reflected and reverberated sound of the audio output according to your preference.

The DSP modes

- Surround menu select/effect level control mode
- DSP custom file register mode
- LP (listening position) adjust mode
- Sub woofer cutoff frequency select/volume control mode
- Bass adjust mode
- Treble adjust mode

Surround menu

There are ten preset surround modes available with this unit. You can select your desired surround mode to suit the source audio. These modes can simulate different soundfields so that you can enjoy the sensation of being close to the music source or being at a live concert etc.

HALL	Concert hall
JAZZ	Jazz club
DISCO	Disco with thick walls
THEATER	Theater/cinema
PARK	Big open space
LIVE	Live concert
OPERA	Opera house
CHURCH	Church/chapel with a lot of reverberation
STADIUM	Open-air concert in a stadium
CELLAR	Cellar with a lot of reverberation
DEFEAT	Normal mode without any DSP effects*

Notes

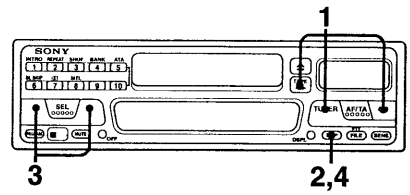
- When the optional digital signal processor XDP-U50D and a graphic equalizer are connected, there may be cases where the reproduced sound becomes distorted when the output audio signal of the graphic equalizer is boosted too much. In this case, press the preset number button 8 while pressing the SEL button. The volume will be reduced and the distorted sound will be suppressed. To cancel the mode, press these buttons once more.
- When the optional digital signal processor XDP-U50D is connected, the output sound from the rear speakers may be automatically lowered.

Effect Level adjustment
The balance, the level of the reflected sound and the resonance of the selected surround menu can be adjusted.

* The surround mode will be canceled. However, other preset levels of the DSP function will not be canceled.

Selecting the Surround Menu

(When the Optional Digital Signal Processor is Connected)



1 **Select a program source from tape, CD or radio.**

TAPE ◀II▶ TUNER CD

2 **Press the DSP button for more than one second to enter the surround menu select mode.**

DSP ➡ -DEFEAT- → SURR

3 **Press either side of the [−/+] button to select the desired surround menu.**

[−/+] ➡ HALL→JAZZ→DISCO→...→DEFEAT→HALL→JAZZ...

[−/+] ➡ CELLAR→STADIUM→CHURCH→...→JAZZ→HALL→DEFEAT...

CHURCH

4 **Press the DSP button for more than one second.**

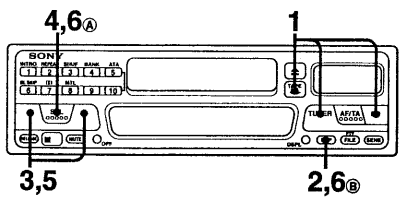
DSP

You can continue to listen with the selected surround menu.

If the "DEFEAT" mode is selected with the [−/+] button, the sound will be restored to the original state without any effects. (The "DSP" indication will disappear.)

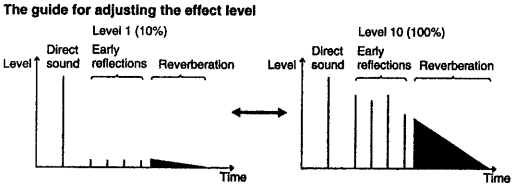
Canceling the surround menu select mode

Press the DSP button lightly. (The "DSP" indication disappears.)



The adjustable range is from 0 to 10. The larger the figure, the more live-performance-like the sound will become.

The guide for adjusting the effect level



Adjusting the Effect Level

1 **Select a program source from tape, CD or radio.**

TAPE ◀II▶ TUNER CD

2 **Press the DSP button for more than one second to enter the surround menu select mode.**

DSP ➡ -DEFEAT- → SURR

3 **Press either side of the [−/+] button to select the desired surround menu.**

[−/+] ➡ HALL→JAZZ→DISCO→...→DEFEAT→HALL→JAZZ...

[−/+] ➡ CELLAR→STADIUM→CHURCH→...→JAZZ→HALL→DEFEAT...

CHURCH

4 **Press the SEL button lightly to enter the effect level adjust mode.**

SEL ➡ EFFECT 1

Note
If the "DEFEAT" mode is selected with the surround menu, the adjustment of the effect level cannot be made.

5 **Press either side of the [−/+] button to select the desired level.**

[−/+] ➡ EFFECT 8

6 **Ⓐ To continue to adjust the effect level of another surround menu**
Press the SEL button lightly.

SEL

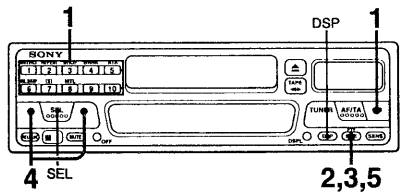
Ⓑ To cancel the effect level adjust mode
Press the DSP button for more than one second.

DSP

To stop the setting procedure
Press the DSP button for more than one second.

To change the effect level to the original (factory-set) setting
Press the SEL button for more than two seconds.

Registering the Surround Menu onto Discs



Once you have registered the surround menu onto the discs, you can enjoy the same surround menu every time you play these discs.

Before registering the DSP custom file, make sure that you have put the titles onto the discs (page 22).

1 **Play any disc.**

CD → INTRO 1 — 10 → CD 1

(Press for more than one second.)

2 **Press the FILE button for more than two seconds to enter the name edit mode.**

PTY FILE →

Name edit mode

If the "--------" indication appears on the main display window, put a title onto the disc by referring to "Displaying the Title of Each Disc" on page 22.

3 **Press the FILE button lightly twice to enter the DSP file registering mode.**

PTY FILE → DEFEAT

4 **Press either side of the − / + button to select the desired surround menu.**

− → HALL→JAZZ→DISCO→...→DEFEAT→HALL→JAZZ...

\+ → CELLAR→STADIUM→CHURCH→...→JAZZ→HALL→DEFEAT...

CHURCH

You can register customized surround menu onto the maximum of 110 discs. See page 24 for more details.

You can use the supplied rotary commander or the optional wireless remote commander as well.

5 **Press the FILE button for more than two seconds.**

PTY FILE

The unit enters the normal CD play mode.

Playing with the DSP Custom File Mode

Press and hold the SEL button and press the DSP button.

SEL DSP →

The "DSP"* and "FILE" indications appear on the main display window.
To return to the normal CD play mode, press both the buttons simultaneously once more.

Changing the registered surround menu

Select the disc whose surround mode you wish to alter and repeat steps 2 to 5.

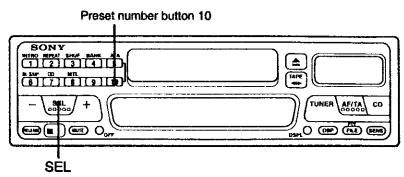
Erasing the registered surround menu

Select the DEFEAT mode in step 4 of "Registering the Surround Menu onto Discs".

If the DSP button is pressed during CD play with the DSP custom file function, the reproduced sound will become unprocessed.

* If the surround menu is not registered on a disc, the "DSP" indication will not appear.

Listening with the Same Surround Mode Every Time — LSM (Last Surround Memory) Function



LSM (Last surround memory) function

This function memorizes the selected surround menu of each program source at all times. With this function, you can always listen to the same program source with the same preset surround menu even after changing the program source or turning the unit on afresh.

Playing with the LSM Function

Press and hold the SEL button and press the preset number button 10.

SEL 10 → LSM ON

The "LSM" indication is displayed.

For example, if you listen to a disc in the "CHURCH" mode just after listening to a tape in the "HALL" mode, the next time you listen to a tape, it is automatically played in the "HALL" mode.

If you wish to cancel the LSM function, press and hold the SEL button and then press the preset number button 10.

Adjusting the Soundfield Inside Your Car

By adjusting the following, you can set up customized soundfields and tone quality inside your car.
- Listening position
- Sub-woofer's cutoff frequency and volume
- Bass and treble

Listening position adjustment

The time taken by the sound to reach the listener from each speaker can be adjusted. Even in an imperfect listening environment such as inside a car, it is possible to simulate a natural sound image so that a listener can feel as if he is sitting in the middle of the soundfield wherever he sits in the car.

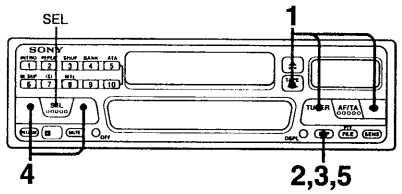
Sub woofer's cutoff frequency/volume adjustment

To match the characteristics of the connected sub woofer(s), you can cut the unwanted high and middle frequency audio signal going into the sub woofer(s). The frequency at which the audio signal is cut off is called the cutoff frequency. By setting the cutoff frequency, the sub woofer(s) is (are) able to output clearer bass whose frequency range is lower than the selected cutoff frequency. Thus creating the sound image without the variance of the phases caused by input frequencies.

Bass/treble adjustment

The volume can be adjusted by selecting the center frequencies of both the bass and treble sound to suit the acoustic characteristics inside your car.

Fader adjustment
When the optional digital signal processor XDP-U50D is connected, you can adjust the fader whether the DSP mode is on or off.



Even in an imperfect listening environment such as inside a car, it is possible to simulate a natural soundfield so that a listener can feel as if he is sitting in the middle of the soundfield wherever he sits in the car.

Selecting the Listening Positions

1 **Select a program source from tape, CD or radio.**

TAPE ◀II▶ TUNER CD

2 **Press the DSP button for more than one second to enter the DSP select/adjust mode.**

DSP → -DEFEAT-

3 **Press the DSP button lightly to enter the listening position adjust mode.**

DSP → ALL

4 **Press either side of the [−/+] button to select the desired position.**

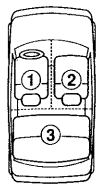
[−/+] → FRONT R

5 **To cancel the listening position adjust mode**
Press the DSP button for more than one second.

DSP

While adjusting the listening position, each time you press + side of the [−/+] button, the indication of the main (sub) display window changes cyclically as follows:

ALL (LP1)
↓
FRONT (LP2)
↓
FRONT R (LP3)
↓
FRONT L (LP4)
↓
REAR (LP5)

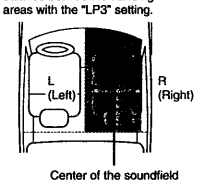


Sub display window	Main display window	Center of soundfield
LP1	ALL	Normal setting (①+②+③)
LP2	FRONT	Front part (①+②)
LP3	FRONT R	Front right (②)
LP4	FRONT L	Front left (①)
LP5	REAR	Rear part (③)

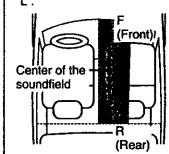
Setting the listening position more specifically

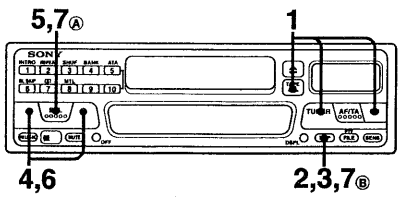
1 **Select the listening position in step 4 on page 52, then press the SEL button.**
2 **The unit enters the left and right balance adjust mode. Press either side of the [−/+] button to set the center of the soundfield.**
–: moves toward L (left)
+: moves toward R (right)
3 **Press the SEL button.**
4 **The unit enters the front and rear balance adjust mode. Press either side of the [−/+] button to set the center of the soundfield.**
–: moves toward F (front)
+: moves toward R (rear)
5 **Press the DSP button for more than one second** to cancel the listening position adjust mode.

For example, to adjust the balance between left and right areas with the "LP3" setting.



For example, when the center of the soundfield is moved toward "L".





Adjusting the Cutoff Frequency and Volume of the Sub Woofer

1 **Select a program source from tape, CD or radio.**

TAPE ◀II▶ TUNER CD

2 **Press the DSP button for more than one second to enter the DSP select/adjust mode.**

DSP → -DEFEAT-

3 **Press the DSP button lightly to enter the cutoff frequency adjust mode.**

DSP → FREQ 62

4 **Press either side of the [−/+] button to select the desired cutoff frequency.**

[−/+] → FREQ 157

Each time you press + side of the [−/+] button, the cutoff frequency changes cyclically as follows:

62 Hz
↓
78 Hz
↓
99 Hz
↓
125 Hz
↓
157 Hz
↓
198 Hz

5 **Press the SEL button lightly.**

SEL → – ′′ +

6 **Press either side of the [−/+] button to select a desired setting on the main display window.**

[−/+] → The volume of the subwoofer(s) increases.

[−/+] → The volume of the subwoofer(s) decreases.

7 Ⓐ **To change the cutoff frequency**
Press the SEL button lightly.

SEL

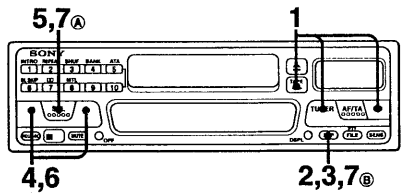
The unit returns to the cutoff frequency adjust mode.

Ⓑ **To cancel the cutoff frequency adjust mode**
Press the DSP button for more than one second.

DSP

To stop the setting procedure
Press the DSP button for more than one second.

To change the cutoff frequency to the original (factory-set) setting
Press the SEL button for more than two seconds.



You can select the center frequencies you wish to adjust for the bass and treble respectively and boost or cut their levels.

Adjusting the Bass and Treble

1 **Select a program source from tape, CD or radio.**

TAPE ◄II► TUNER CD

2 **Press the DSP button for more than one second to enter the DSP select/adjust mode.**

DSP → -DEFEAT-

3 **Press the DSP button lightly to select the bass or treble adjust mode.**

DSP → FREQ 314

Bass adjust mode

FREQ 3.1k

Treble adjust mode

4 **Press either side of the [−/+] button to select the center frequency.**
(The illustration below is that of the bass adjust mode.)

[−/+] → FREQ 250

Each time you press + side of the [−/+] button, the center frequency for the bass sound adjustment changes cyclically as follows:

198 Hz → 250 Hz → 314 Hz → 396 Hz

Each time you press + side of the [−/+] button, the center frequency for the treble sound adjustment changes cyclically as follows:

2.0 kHz → 3.1 kHz → 4.0 kHz → 5.0 kHz

5 **Press the SEL button lightly.**

SEL → − +

6 **Press either side of the [−/+] button to select the desired level on the main display window.**

[−/+] → To boost bass or treble.

[−/+] → To cut bass or treble.

7 **Ⓐ To change the center frequency**
Press the SEL button lightly.

SEL

The unit returns to the bass or treble adjust mode.

Ⓑ To cancel the bass or treble adjust mode
Press the DSP button for more than one second.

DSP

To stop the setting procedure
Press the DSP button for more than one second.

To change the bass or treble to the original (factory-set) setting
Press the SEL button for more than two seconds.

Maintenance

Fuse Replacement

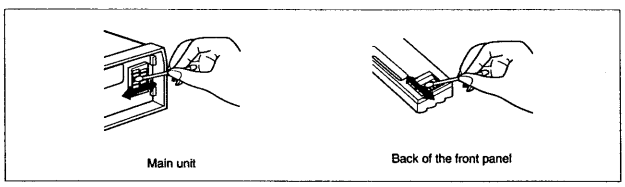
When replacing the fuse, be sure to use the one with the correct amperage which will be stated on the fuse case. Never use a fuse whose amperage rating exceeds the one supplied to the unit as this could cause a malfunction of the unit.
There are two fuses installed in this unit: one is a blade shaped fuse plugged into the back panel of the unit, the other is placed in the red power input lead.

Warning
Use the specified amperage fuse.
Use of a higher amperage fuse may cause serious damage.

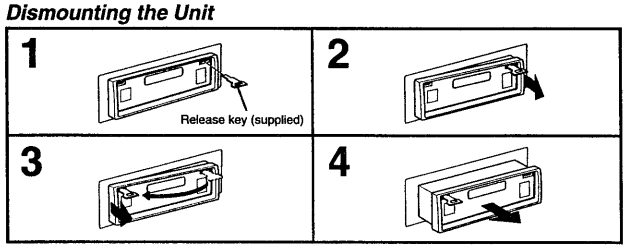
Cleaning the Connectors

The unit may not function properly if the connectors between the unit and the front panel are contaminated with dirt. In order to prevent this from happening, open up the front panel by pressing the RELEASE button then detach it and clean the connectors from time to time.

Clean the connectors with a cotton swab as illustrated. Be sure to clean them with a horizontal motion. Never clean them vertically as this could damage the connecting points.



Dismounting the Unit



Installation

Precautions

- Choose the mounting location carefully so that the unit will not interfere with the normal driving functions of the driver.
- Avoid installing the unit where it would be subject to high temperatures, such as from direct sunlight or hot air from the heater, or where it would be subject to dust, dirt or excessive vibration.
- Use only the supplied mounting hardware for a safe and secure installation.
- Be sure to detach the front panel before you start installing the unit.
- **Press the reset button after completing the connections.**

Mounting angle adjustment
Adjust the mounting angle to less than 20°.

How to Detach and Attach the Front Panel

To detach
Press the RELEASE button to open up the front panel, then pull it out.

To attach
Align the parts Ⓐ and Ⓑ, and push the front panel until it clicks.

Installation

Précautions

- Choisir l'emplacement de montage avec soin de manière que l'appareil ne gêne pas les mouvements du conducteur.
- Eviter d'installer l'appareil en plein soleil, près d'une source de chaleur comme un chauffage ou dans un endroit exposé à la poussière, la saleté ou des vibrations excessives.
- Afin de garantir un montage sûr, utiliser uniquement le matériel de montage fourni.
- Veiller à détacher la façade avant d'installer l'appareil.
- **Les connexions achevées, appuyer sur la touche de réinitialisation sur le panneau avant.**

Réglage de l'angle de montage
Ajuster l'inclinaison à un angle inférieur à 20°.

Retrait et pose du panneau avant

Retrait
Appuyer sur la touche RELEASE pour ouvrir le panneau avant, puis l'enlever.

Pose
Aligner les points Ⓐ et Ⓑ, puis pousser l'appareil jusqu'au déclic.

Installation

Vorsichtsmaßnahmen

- Wählen Sie den Einbauort sorgfältig so aus, daß das Gerät die Bedienung des Fahrzeugs nicht behindert.
- Bauen Sie das Gerät so ein, daß es keinen hohen Temperaturen (keinem direkten Sonnenlicht, keiner Warmluft von Heizung), keinem Staub, keinem Schmutz und keinen starken Vibrationen ausgesetzt ist.
- Für eine sichere Befestigung verwenden Sie stets nur die mitgelieferten Montageteile.
- Nehmen Sie die Frontplatte vor dem Einbau des Gerätes ab.
- **Nach dem Anschluß drücken Sie die Rückstelltaste.**

Hinweis zum Montagewinkel
Das Gerät sollte in einem Winkel von weniger als 20° montiert werden.

Zum Anbringen und Abnehmen der Frontplatte

Zum Abnehmen
Drücken Sie die RELEASE-Taste zum Lösen der Frontplatte und ziehen Sie sie ab.

Zum Anbringen
Richten Sie Teil Ⓐ auf Teil Ⓑ aus und drücken Sie die Frontplatte fest, so daß sie mit einem Klicken einrastet.

Installazione

Precauzioni

- Scegliere con attenzione il luogo di montaggio in modo che l'apparecchio non interferisca con le normali operazioni di guida del conducente.
- Evitare di installare l'apparecchio dove sia soggetto ad alte temperature, come da esposizione alla luce solare diretta o al getto di aria calda dell'impianto di riscaldamento, o dove possa essere soggetto a polvere, sporco e vibrazioni eccessive.
- Usare solo il materiale di montaggio in dotazione per un'installazione stabile e sicura.
- Prima di installare l'apparecchio staccare il pannello anteriore.
- **Premere il pulsante di azzeramento dopo avere completato i collegamenti.**

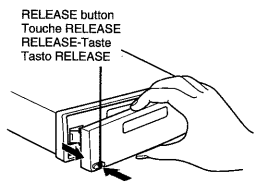
Regolazione dell'angolo di montaggio
Regolare l'angolo di montaggio in modo che sia inferiore a 20°.

Come staccare e attaccare il pannello anteriore

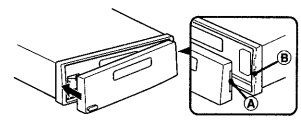
Per staccare
Premere il tasto RELEASE per aprire il pannello anteriore e quindi tirarlo verso l'esterno.

Per attaccare
Allineare le parti Ⓐ e Ⓑ e spingere il pannello anteriore fino a udire uno scatto.

To detach
Retrait
Zum Abnehmen
Per staccare



To attach
Pose
Zum Anbringen
Per attaccare



Mounting Example

Installation in the dashboard

Exemple de montage

Installation dans le tableau de bord

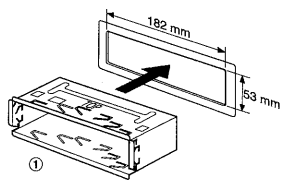
Einbaubeispiel

Installation im Armaturenbrett

Esempio di montaggio

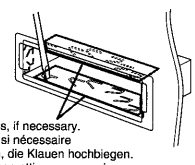
Installazione sul cruscotto

1



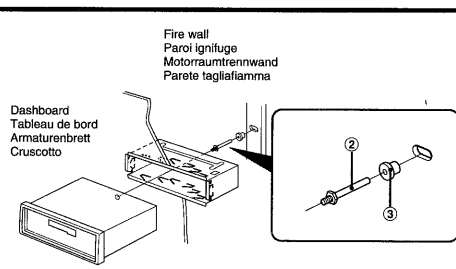
with the "TOP" marking up
avec l'inscription "TOP" vers le haut
mit der TOP-Markierung nach oben weisend
con l'indicazione "TOP" rivolta verso l'alto

2



Bend these claws, if necessary.
Plier ces griffes, si nécessaire
Falls erforderlich, die Klauen hochbiegen.
Piegare questi morsetti se necessario

3



Mounting the Unit in a Japanese Car

You may not be able to install this unit in some makes of Japanese cars. In such a case, consult your nearest Sony dealer.

Installation de l'appareil dans une voiture japonaise

Si l'appareil ne peut pas être installé dans une voiture japonaise, consulter le revendeur Sony le plus proche.

Montage in einem japanischen Fahrzeug

In einige japanische Fahrzeuge kann dieses Gerät nicht eingebaut werden. Genaueres erfahren Sie bei Ihrem Sony Händler.

Montaggio dell'apparecchio su un'auto giapponese

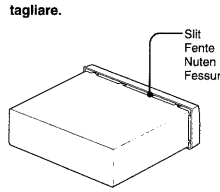
Può non essere possibile installare questo apparecchio in alcune auto giapponesi. In questo caso, consultare il più vicino rivenditore Sony.

1 **Run a blade along the slits on the back of the front trim and cut it off the unit.**

Passer une lame le long des fentes à l'arrière de la bordure et la couper.

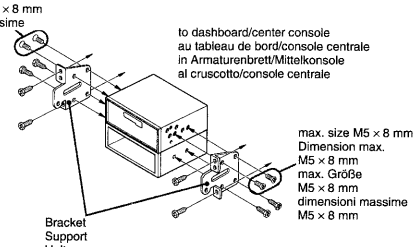
Fahren Sie mit einer Klinge entlang der Nuten an der Rückseite der Frontverkleidung und nehmen Sie die Frontverkleidung ab.

Passare una lama lungo le fessure sul retro della finitura anteriore e tagliare.



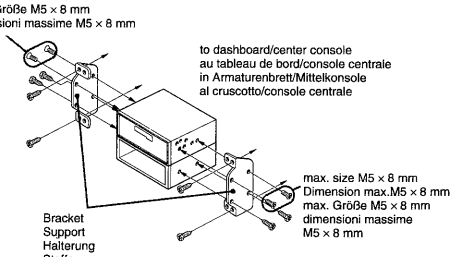
2 **TOYOTA**

max. size M5 × 8 mm
Dimension max. M5 × 8 mm
max. Größe M5 × 8 mm
dimensioni massime
M5 × 8 mm



NISSAN

max. size M5 × 8 mm
Dimension max. M5 × 8 mm
max. Größe M5 × 8 mm
dimensioni massime M5 × 8 mm



Note
Use the existing parts supplied to your car.

Remarque
Utiliser les pièces fournies avec la voiture.

Hinweis
Verwenden Sie die bei Ihrem Fahrzeug mitgelieferten Teile.

Nota
Usare le parti in dotazione all'auto.

Connections | Connexions | Anschluß | Collegamenti

Caution

- This unit is designed for negative ground 12 V DC operation only.
- Before making connections, disconnect the ground terminal of the car battery to avoid short circuits.
- Connect the **red** power input lead only after all other leads are connected. And be sure to connect it to the positive 12 V power terminal which is energized when the ignition key is set to the accessory position.
- **Run all ground wires to a common ground point.**

Précautions

- Cet appareil est conçu pour fonctionner sur courant continu de 12 V avec masse négative.
- Avant d'effectuer les connexions, débrancher la borne de terre de la batterie du véhicule pour éviter tout court-circuit.
- Brancher le fil d'entrée d'alimentation **rouge** en dernier. En outre, veiller à le raccorder à la borne d'alimentation de 12 V positive qui est alimentée quand la clé de contact est sur la position accessoire.
- **Rassembler tous les fils en un point de masse commun.**

Vorsicht

- Dieses Gerät ist ausschließlich für eine negativ geerdete 12-V-Autobatterie bestimmt.
- Trennen Sie vor dem Anschließen des Gerätes die Erdungsklemme der Autobatterie ab, um einen Kurzschluß zu vermeiden.
- Schließen Sie die **rote** Stromversorgungsleitung als letztes, nachdem alle anderen Anschlüsse hergestellt sind, an einen positiven 12-V-Kontakt des Bordnetzes an, der in der Zubehörposition des Zündschlosses unter Strom steht.
- **Leiten Sie alle Erdungskabel an einen gemeinsamen Massepunkt ab.**

Attenzione

- Questo apparecchio è stato progettato per l'uso solo in funzionamento a 12 V CC con massa negativa.
- Prima di eseguire i collegamenti, scollegare il terminale di massa della batteria dell'auto per evitare cortocircuiti.
- Collegare il cavo **rosso** di ingresso alimentazione solo dopo aver collegato tutti gli altri cavi e assicurarsi di collegarlo al terminale di alimentazione positivo da 12 V. Che è sotto tensione quando la chiavetta di accensione si trova nella posizione accessoria.
- **Portare tutti i cavi di massa a un punto di massa comune.**

When the Unit is Used in a Car with No Accessory Position on the Ignition Key

— POWER SELECT Switch

The illumination on the front panel is factory-set to be turned on even when the unit is not being played. However, this setting may cause some car battery wear **if the unit is used in a car with no accessory position on the ignition key.** To avoid this battery wear when using the unit in such a car, **set the POWER SELECT switch located on the bottom of the unit to the OFF position, then press the reset button.** The illumination is reset to stay off while the unit is not being played.

Note
The caution alarm for the front panel is not activated when the POWER SELECT switch is set to the OFF position.

Si l'appareil est utilisé dans une voiture dont la clé de contact n'a pas de position accessoire

— Interrupteur POWER SELECT

L'éclairage de la façade avant est réglé en usine de manière à s'allumer même quand l'appareil ne fonctionne pas. Cependant, ce réglage risque d'épuiser la batterie **si l'appareil est utilisé dans une voiture dont la clé de contact ne possède pas de position accessoire.** Pour éviter d'épuiser la batterie, régler **l'interrupteur POWER SELECT sur le fond de l'appareil sur OFF, puis appuyer sur la touche de réinitialisation.** L'éclairage est réinitialisé pour rester éteint quand l'appareil n'est pas utilisé.

Remarque
Quand l'interrupteur POWER SELECT est réglé sur OFF, l'avertisseur de la façade ne fonctionne pas.

Wenn das Zündschloß Ihres Wagens keine Zubehörposition besitzt

— POWER SELECT-Schalter

Das Gerät ist werksseitig so voreingestellt, daß das Bedienungspult auch dann beleuchtet ist, wenn das Gerät nicht betrieben wird. **Besitzt das Zündschloß Ihres Fahrzeugs keine Zubehörposition, so ist die Beleuchtung ständig eingeschaltet** und entzieht der Batterie Strom. Stellen Sie in einem solchen Fall **den POWER SELECT-Schalter an der Unterseite des Gerätes auf OFF, und drücken Sie die Rückstelltaste.** Bei ausgeschaltetem Gerät ist das Bedienungspult dann nicht mehr beleuchtet.

Hinweis
Der Warnton ertönt nicht, wenn der POWER SELECT-Schalter auf OFF gestellt ist.

Quando si usa l'apparecchio in un'auto priva di posizione accessoria per la chiavetta di accensione

— Interruttore POWER SELECT

L'illuminazione del pannello anteriore è stata predisposta in fabbrica per l'attivazione anche quando non si usa l'apparecchio. Tuttavia questa regolazione può causare lo scaricamento della batteria dell'auto **se si usa l'apparecchio in un'auto priva di posizione accessoria per la chiavetta di accensione.** Per evitare lo scaricamento della batteria quando si usa l'apparecchio in questo tipo di auto, **regolare su OFF l'interruttore POWER SELECT situato sul fondo e quindi premere il pulsante di azzeramento.** L'illuminazione viene così regolata per lo spegnimento quando non si usa l'apparecchio.

Nota
La suoneria di avvertimento per il pannello anteriore non si attiva quando l'interruttore POWER SELECT è regolato sulla posizione OFF.

When an FM Diversity Antenna is Used

— FM DIVERSITY Switch

The unit can be connected with diversity antennas. If you use this unit with the diversity antennas, set the FM DIVERSITY switch located at the bottom of the unit to the ON position to activate the diversity system.

When you do not use the FM diversity antennas
If you wish to connect a conventional rod antenna, be sure to connect it to the antenna connector of the unit marked "MAIN", and set the FM DIVERSITY switch to the OFF position. Never connect the antenna to the connector marked "SUB", otherwise if the FM DIVERSITY switch is set to the ON position, the radio signals may not be received properly.

Note
The radio reception will be disturbed by noise if the connection of the antennas was not made properly or the FM DIVERSITY switch was not set correctly.

Utilisation d'un antenne FM à rayonnement zénithal réduit

— Interrupteur FM DIVERSITY

L'appareil peut être relié à des antennes à rayonnement zénithal réduit. Si vous utilisez ainsi l'appareil, réglez l'interrupteur FM DIVERSITY se trouvant sous l'appareil sur la position ON pour mettre le système en service.

Si vous n'utilisez pas d'antennes à rayonnement zénithal réduit
Si vous souhaitez raccorder une simple antenne-tige, veillez à la brancher sur le connecteur d'antenne "MAIN", et réglez l'interrupteur FM DIVERSITY sur la position OFF. Ne raccordez jamais l'antenne au connecteur "SUB", sinon, si l'interrupteur est réglé sur ON, les signaux radio ne seront pas reçus correctement.

Remarque
Si le raccordement des antennes n'est pas réalisé correctement ou si l'interrupteur FM DIVERSITY n'est pas réglé sur la bonne position, des parasites gêneront la réception radio.

Bei Verwendung einer UKW-Diversity-Antenne

— FM DIVERSITY-Schalter

An das Gerät können Diversity-Antennen angeschlossen werden. Stellen Sie in einem solchen Fall den FM DIVERSITY-Schalter an der Unterseite des Geräts auf ON, so daß der Diversity-Schaltkreis aktiviert wird.

Wenn keine UKW Diversity-Antennen verwendet werden
Der Anschluß einer konventionellen Teleskopantenne erfolgt an die mit MAIN markierte Antennenbuchse. In diesem Fall ist der FM DIVERSITY-Schalter auf OFF zu stellen. Schließen Sie eine Einzelantenne nicht an die mit SUB markierte Antennenbuchse an, da sonst kein einwandfreier Empfang gewährleistet ist. (Diese Buchse ist nur bei auf ON stehendem FM DIVERSITY-Schalter aktiviert.)

Hinweis
Bei falschem Antennenanschluß bzw. bei falsch eingestelltem FM DIVERSITY-Schalter kann es zu Empfangsstörungen kommen.

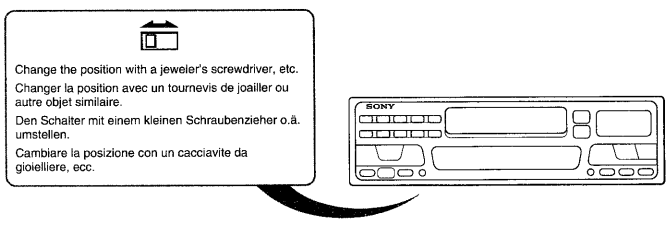
Quando si usa un'antenna FM a diversità di frequenza

— Interruttore FM DIVERSITY

Questo apparecchio può essere collegato a antenne a diversità di frequenza. Se si usa questo apparecchio con antenne a diversità di frequenza, regolare sulla posizione ON l'interruttore FM DIVERSITY situato sul fondo per attivare il sistema a diversità di frequenza.

Quando non si usano antenne FM a diversità di frequenza
Se si desidera collegare una normale antenna ad asta, assicurarsi di collegarla al connettore antenna dell'apparecchio contrassegnato con "MAIN" e regolare l'interruttore FM DIVERSITY sulla posizione OFF. Non collegare mai l'antenna al connettore contrassegnato con "SUB", altrimenti se l'interruttore DIVERSITY è regolato sulla posizione ON i segnali radio possono non essere ricevuti correttamente.

Nota
La ricezione radio è disturbata se il collegamento delle antenne non viene eseguito correttamente o se l'interruttore FM DIVERSITY non è regolato correttamente.


Change the position with a jeweler's screwdriver, etc.
Changer la position avec un tournevis de joailler ou autre objet similaire.
Den Schalter mit einem kleinen Schraubenzieher o.ä. umstellen.
Cambiare la posizione con un cacciavite da gioielliere, ecc.
SONY

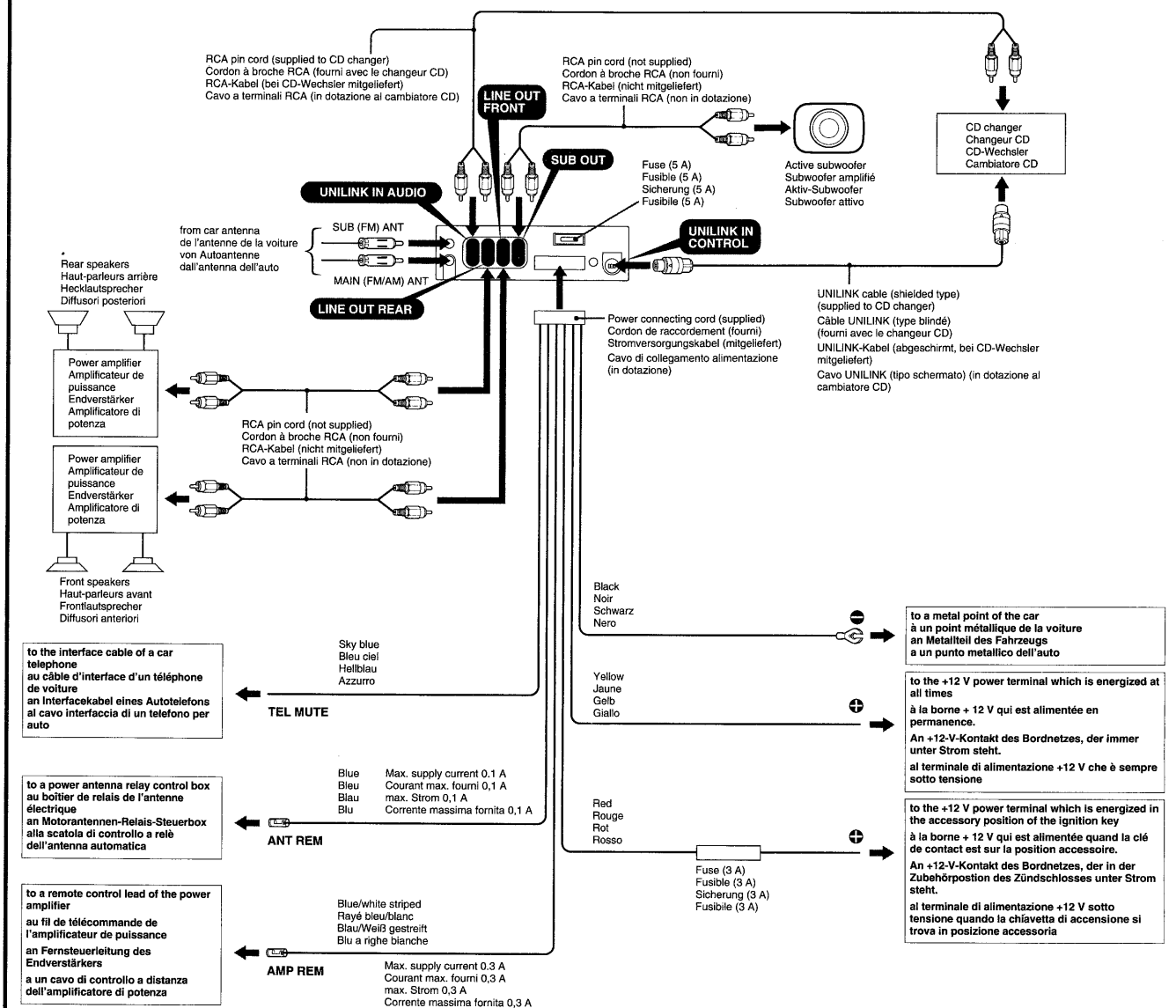
When you change the position of the switch, be sure to press the reset button after the connections are completed.

Si vous changez la position de l'interrupteur, n'oubliez pas d'appuyer sur la touche de réinitialisation après avoir terminé tous les raccordements.

Wenn der Schalter umgestellt wird, muß nach dem Anschluß die Rückstelltaste gedrückt werden.

Quando si cambia la posizione dell'interruttore, assicurarsi di premere il pulsante di azzeramento dopo avere completato i collegamenti.

Connections of Example — Exemple de connexion — Anschlußbeispiel — Esempio di collegamento


RCA pin cord (supplied to CD changer)
Cordon à broche RCA (fourni avec le changeur CD)
RCA-Kabel (bei CD-Wechsler mitgeliefert)
Cavo a terminali RCA (in dotazione al cambiatore CD)
LINE OUT FRONT
RCA pin cord (not supplied)
Cordon à broche RCA (non fourni)
RCA-Kabel (nicht mitgeliefert)
Cavo a terminali RCA (non in dotazione)
SUB OUT
Fuse (5 A)
Fusible (5 A)
Sicherung (5 A)
Fusibile (5 A)
Active subwoofer
Subwoofer amplifié
Aktiv-Subwoofer
Subwoofer attivo
CD changer
Changeur CD
CD-Wechsler
Cambiatore CD
UNILINK IN AUDIO
from car antenna
de l'antenne de la voiture
von Autoantenne
dall'antenna dell'auto
SUB (FM) ANT
MAIN (FM/AM) ANT
UNILINK IN CONTROL
Rear speakers
Haut-parleurs arrière
Hecklautsprecher
Diffusori posteriori
LINE OUT REAR
Power connecting cord (supplied)
Cordon de raccordement (fourni)
Stromversorgungskabel (mitgeliefert)
Cavo di collegamento alimentazione (in dotazione)
UNILINK cable (shielded type) (supplied to CD changer)
Câble UNILINK (type blindé) (fourni avec le changeur CD)
UNILINK-Kabel (abgeschirmt, bei CD-Wechsler mitgeliefert)
Cavo UNILINK (tipo schermato) (in dotazione al cambiatore CD)
Power amplifier
Amplificateur de puissance
Endverstärker
Amplificatore di potenza
Power amplifier
Amplificateur de puissance
Endverstärker
Amplificatore di potenza
RCA pin cord (not supplied)
Cordon à broche RCA (non fourni)
RCA-Kabel (nicht mitgeliefert)
Cavo a terminali RCA (non in dotazione)
Front speakers
Haut-parleurs avant
Frontlautsprecher
Diffusori anteriori
Black
Noir
Schwarz
Nero
to a metal point of the car
à un point métallique de la voiture
an Metallteil des Fahrzeugs
a un punto metallico dell'auto
Yellow
Jaune
Gelb
Giallo
to the +12 V power terminal which is energized at all times
à la borne + 12 V qui est alimentée en permanence.
An +12-V-Kontakt des Bordnetzes, der immer unter Strom steht.
al terminale di alimentazione +12 V che è sempre sotto tensione
Red
Rouge
Rot
Rosso
Fuse (3 A)
Fusible (3 A)
Sicherung (3 A)
Fusibile (3 A)
to the +12 V power terminal which is energized in the accessory position of the ignition key
à la borne + 12 V qui est alimentée quand la clé de contact est sur la position accessoire.
An +12-V-Kontakt des Bordnetzes, der in der Zubehörpostion des Zündschlosses unter Strom steht.
al terminale di alimentazione +12 V sotto tensione quando la chiavetta di accensione si trova in posizione accessoria
to the interface cable of a car telephone
au câble d'interface d'un téléphone de voiture
an Interfacekabel eines Autotelefons
al cavo interfaccia di un telefono per auto
Sky blue
Bleu ciel
Hellblau
Azzurro
TEL MUTE
to a power antenna relay control box
au boîtier de relais de l'antenne électrique
an Motorantennen-Relais-Steuerbox
alla scatola di controllo a relè dell'antenna automatica
Blue
Bleu
Blau
Blu
Max. supply current 0.1 A
Courant max. fourni 0,1 A
max. Strom 0,1 A
Corrente massima fornita 0,1 A
ANT REM
to a remote control lead of the power amplifier
au fil de télécommande de l'amplificateur de puissance
an Fernsteuerleitung des Endverstärkers
a un cavo di controllo a distanza dell'amplificatore di potenza
Blue/white striped
Rayé bleu/blanc
Blau/Weiß gestreift
Blu a righe bianche
AMP REM
Max. supply current 0.3 A
Courant max. fourni 0,3 A
max. Strom 0,3 A
Corrente massima fornita 0,3 A

Notes on the control leads
- The power antenna control lead (blue) supplies +12 V DC when you turn on the tuner or when you activate the ATA (Automatic Tuner Activation), AF (Alternative Frequency) or the TA (Traffic Announcement) Function.
- A power antenna without relay box cannot be used with this unit.

Memory hold connection
When the yellow power input lead is connected, power will always be supplied to the memory circuit even when the ignition key is turned off.

Remarques sur les fils de contrôle
- Le fil de contrôle (bleu) de l'antenne électrique fournit un courant continu de +12 V quand le tuner est allumé ou quand la fonction ATA (Activation automatique du tuner), AF (Fréquences alternatives) ou TA Informations routières) est mise en service.
- Une antenne électrique sans boîtier de relais ne peut pas être utilisée avec cet appareil.

Connexion pour le maintien de la mémoire
Quand le fil d'entrée d'alimentation jaune est raccordé, le circuit de la mémoire est alimenté en permanence même si la clé de contact est sur la position d'arrêt.

Hinweise zu den Steuerleitungen
- Die (blaue) Motorantennen-Steuerleitung liefert eine Gleichspannung von +12 V, wenn der Tuner eingeschaltet, die ATA-Funktion (Automatic Tuner Activation), die AF-Funktion (Alternative Frequency) oder die TA-Funktion (Traffic Announcement) aktiviert ist.
- Es kann nur eine Motorantenne mit Relaisbox angeschlossen werden.

Zur Stromversorgung des Speichers
Sofern die gelbe Stromversorgungsleitung angeschlossen ist, wird der Speicher-Schaltkreis stets (d.h. auch bei ausgeschalteter Zündung) mit Strom versorgt.

Note sui cavi di controllo
- Il cavo di controllo dell'antenna automatica (blu) fornisce +12 V CC quando si accende il sintonizzatore o quando si attiva la funzione ATA (attivazione automatica sintonizzatore), la funzione AF (frequenze alternative) o la funzione TA (notiziari sul traffico).
- Non è possibile usare un'antenna automatica senza la scatola a relè con questo apparecchio.

Collegamento per la conservazione in memoria
Quando è collegato il cavo di ingresso alimentazione giallo, il circuito di memoria è alimentato continuamente anche quando la chiavetta di accensione è regolata sulla posizione di spegnimento.

Reset Button

When the installation and connections are over, be sure to press the reset button with a ball-point pen etc. The reset button is located on the left of the connector on the unit side when the front panel is detached.

Touche de réinitialisation

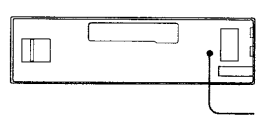
Quand l'installation et les connexions sont terminées, appuyer sur la touche de réinitialisation avec un stylo bille ou autre objet pointu. La touche de réinitialisation est située à gauche du connecteur sur la partie de l'appareil qui se trouve derrière la façade.

Rückstelltaste

Nach der Installation und dem Anschluß muß die Rückstelltaste mit einem Kugelschreiber o.ä. gedrückt werden. Die Rückstelltaste befindet sich bei abgenommener Frontplatte links neben dem Anschluß.

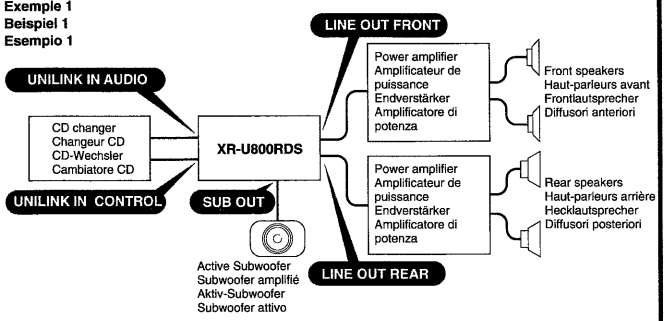
Pulsante di azzeramento

Dopo avere terminato l'installazione e i collegamenti, assicurarsi di premere il pulsante di azzeramento con la punta di una penna a sfera ecc. Il pulsante di azzeramento è collocato sulla sinistra del connettore sul lato dell'apparecchio quando il pannello anteriore è staccato.

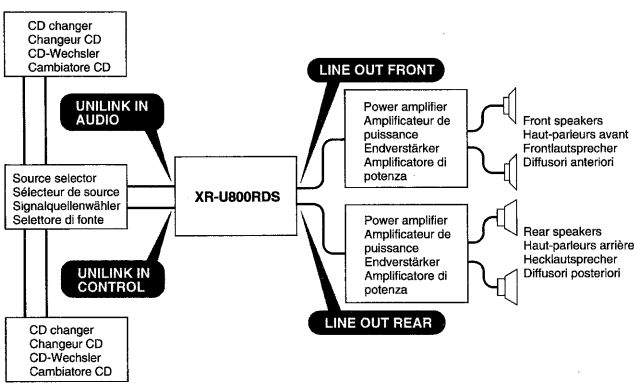


Connection Diagram
Schémas de connexion
Anschlußdiagramm
Schema di collegamento

Example 1
Exemple 1
Beispiel 1
Esempio 1

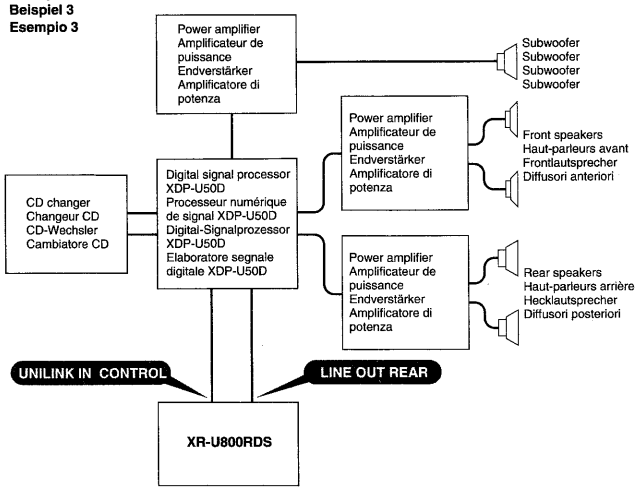


Example 2
Exemple 2
Beispiel 2
Esempio 2



If you connect two or more CD changers, the source selector XA-U20 or XA-U40 is required.
Si au moins deux changeurs sont raccordés, le sélecteur de source XA-U20 ou XA-U40 est indispensable.
Bei Anschluß von zwei oder mehr CD-Wechslern wird der Signalquellenwähler XA-U20 oder XA-U40 benötigt.
Se si collegano due o più cambiatori CD, è necessario il selettore di fonte XA-U20 o XA-U40.

Example 3
Exemple 3
Beispiel 3
Esempio 3

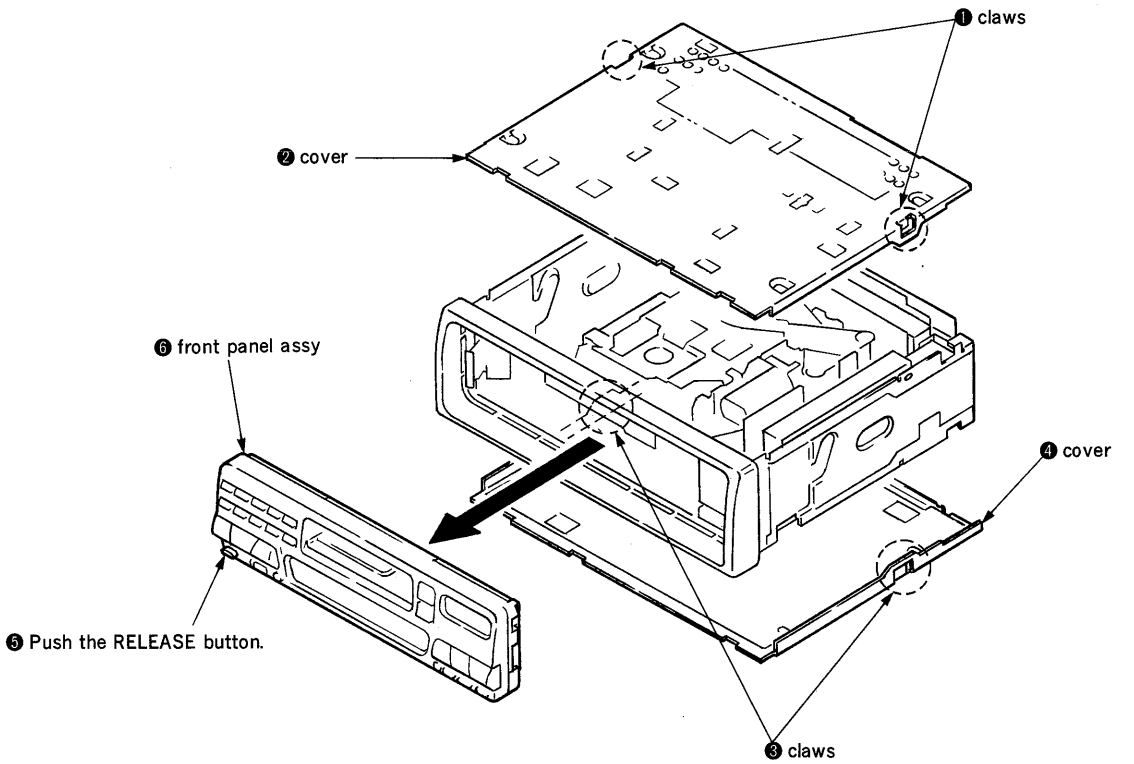


For details about the connection, refer to the operating instructions of XDP-U50D (not supplied).
Pour les détails au sujet des raccordements, veuillez consulter le mode d'emploi du XDP-U50D (non fourni).
Genaueres zum Anschluß entnehmen Sie bitte der Bedienungsanleitung des XDP-U50D (nicht mitgeliefert).
Per dettagli sui collegamenti, fare riferimento al manuale di istruzioni del XDP-U50D (non in dotazione).

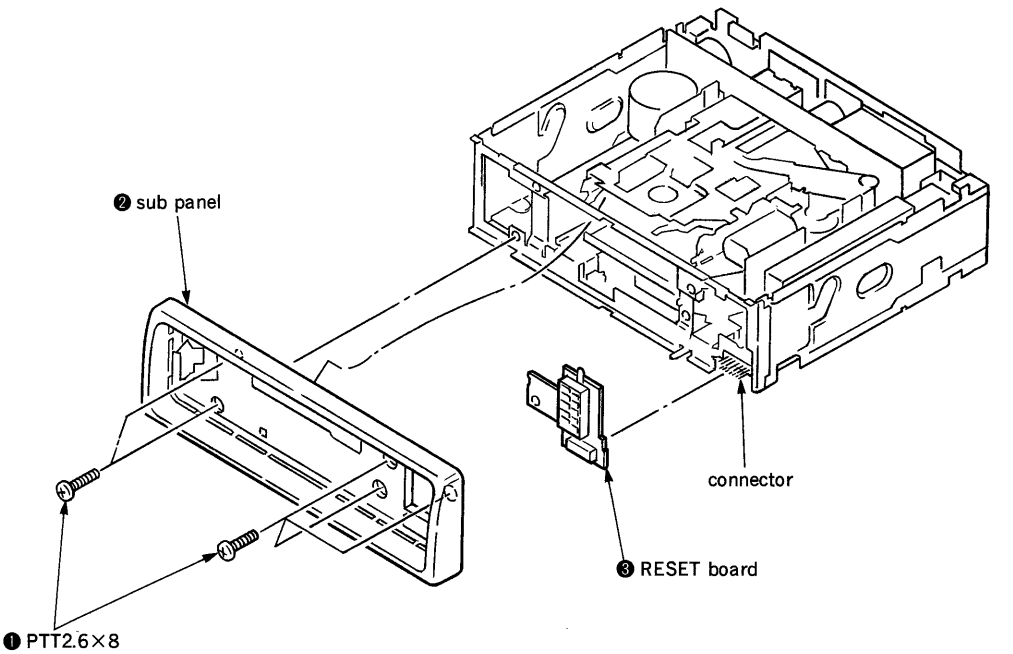
SECTION 2
DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

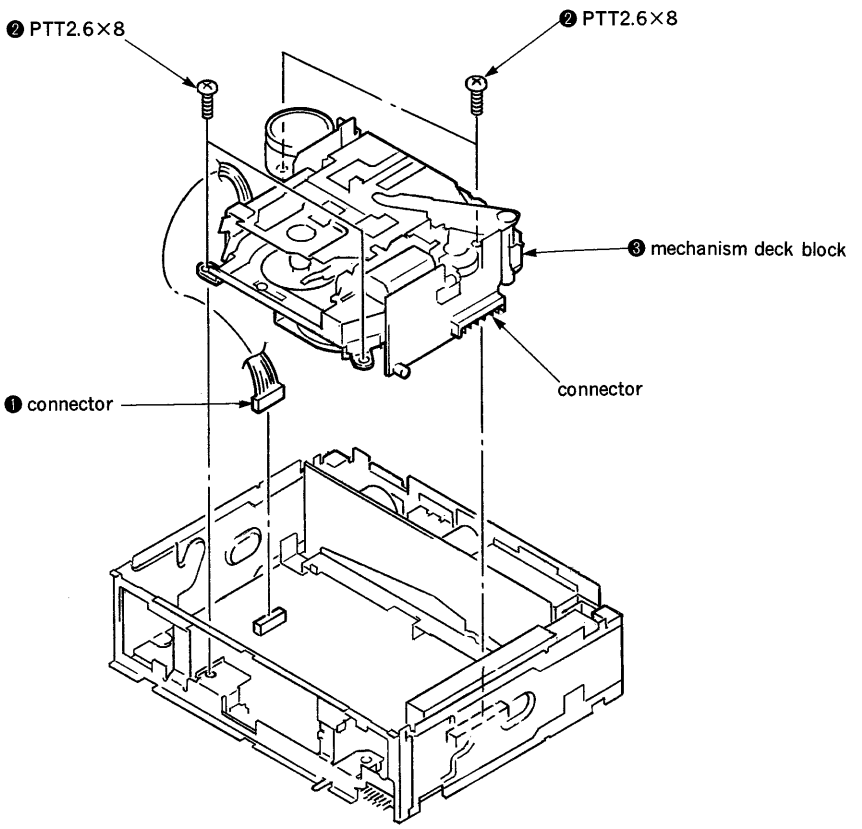
2-1. COVER, FRONT PANEL ASSY



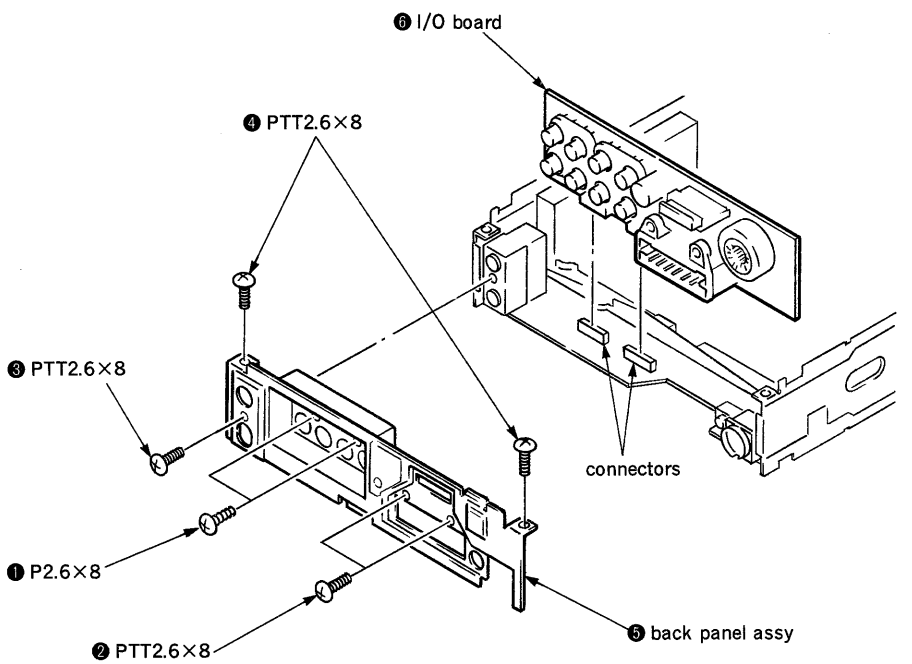
2-2. RESET BOARD



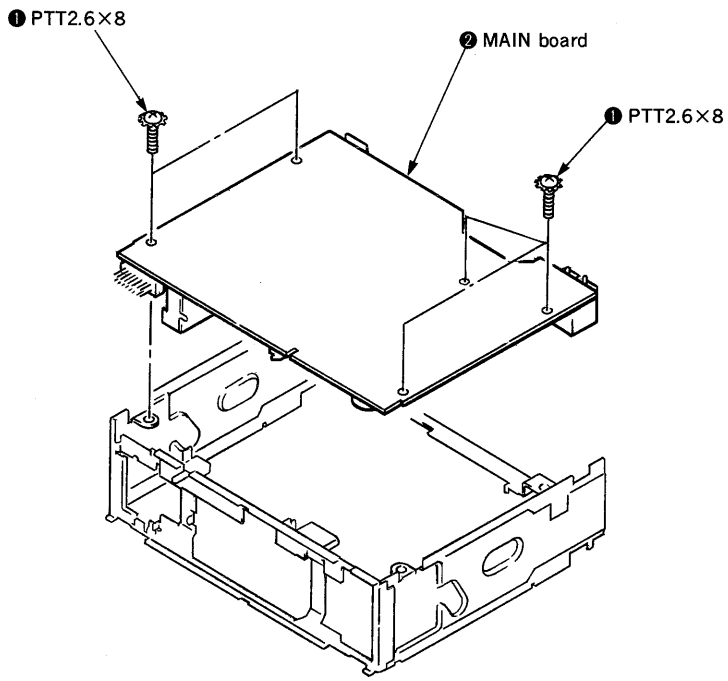
2-3. MECHANISM DECK BLOCK



2-4. I/O BOARD



2-5. MAIN BOARD



SECTION 3
MECHANICAL ADJUSTMENTS

PRECAUTION

1. Wipe the following components with an absorbent cotton cloth moistened with alcohol before adjustment:
   PB head　　Pinch roller
   Idler　　Rubber belt
   Capstan
2. Demagnetize the PB head using a head demagnetizer.
3. Be careful not to use a magnetized screwdriver.
4. After the adjustment is completed, lock the adjustment parts using screws.
5. Unless otherwise specified, make adjustments at the specified voltage (14.4V).

Torque Measurement

Mode	Torque Meter	Meter Reading
FWD	CQ-102C	35−55g•cm (0.49−0.76 oz•inch)
FWD Back Tension		1.5−4.5g•cm (0.02−0.06 oz•inch)
REV	CQ-102RC	35−55g•cm (0.49−0.76 oz•inch)
REV Back Tension		1.5−4.5g•cm (0.02−0.06 oz•inch)
FF, REW	CQ-201B	80−170g•cm (1.11−2.36 oz•inch)

Tape Tension Measurement

Mode	Tension Meter	Meter Reading
FWD	CQ-403A	more than 100g (more than 3.53 oz)
REV	CQ-403R	

SECTION 4
ELECTRICAL ADJUSTMENTS

TEST MODE

This set have the test mode function. In the test mode, FM Auto Scan/Stop Level and AM Auto Scan/Stop Level adjustments can be performed easier than it in ordinaly procedure.

〈Set the Test Mode〉

1. Set the "OFF" mode.
2. Push the preset [4] button.
3. Push the preset [5] button.
4. Press the preset [1] button for two seconds.
5. Then the display indicates five patterns and stops, the test mode is set.

〈Rerease the Test mode〉

1. Push the "OFF" button.

See the adjustment location from on page 28 for the adjustment.

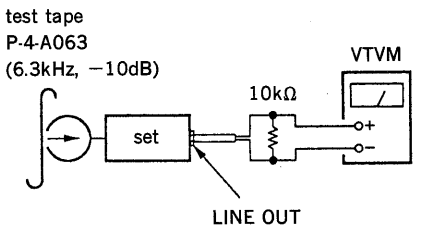
DECK SECTION

0dB=0.775V

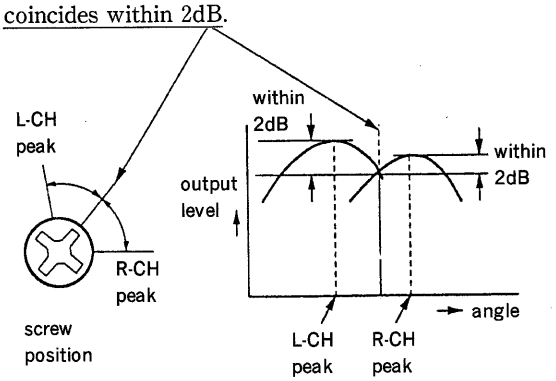
PB Head Azimuth Adjustment

Procedure :

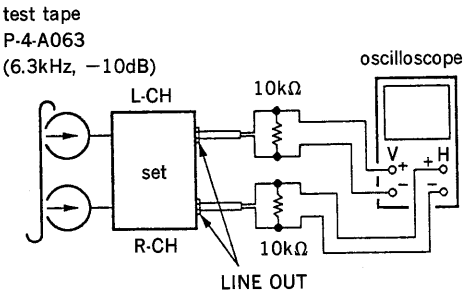
1. Put the set into the FWD PB mode.

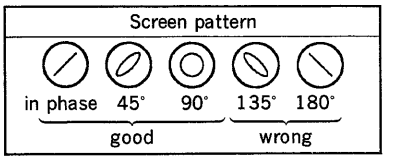


2. Turn the screw and check the output peak value. Adjust the screw so that the peak value in channels L and R coincides within 2dB.



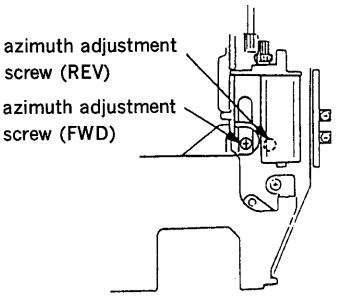
3. Check the phase in the PB mode.





4. Repeat the above adjustment for the REV PB mode.

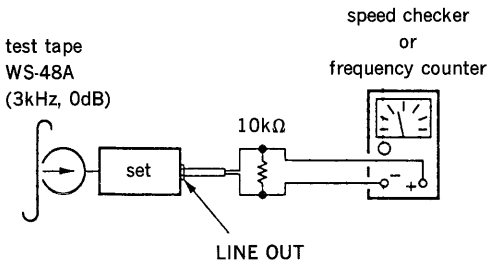
Adjustment Location : PB head



Capstan Motor Tape Speed Adjustment

Procedure :

1. Put the set into the FWD PB mode.



Specification : Constant speed

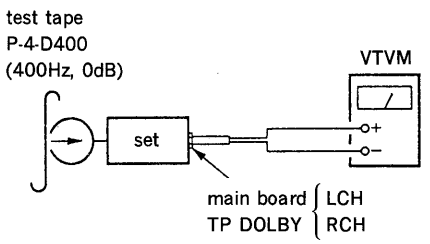
Speed checker	Frequency counter
−1.5 to +2.5%	2,955 to 3,075Hz

Adjustment Location : capstan motor volume

DOLBY Level Adjustment

Setting :

(Dolby NR) button : OFF
SEL (volume) button : Maximum
SEL (balance) button : Center
SEL (bass) button : Center
SEL (treble) button : Center



Procedure :

1. Put the set into the FWD PB mode.
2. Adjust RV301 (L-CH) and RV401 (R-CH) so that VTVM reading is $-4.7^{+1.0}_{0}$ dB (0.45 to 0.51V).

Adjustment Location : equalizer board

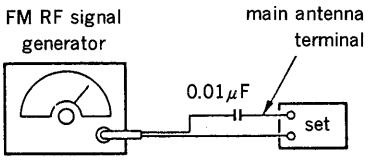
TUNER SECTION | 0dB=1μV

Cautions during repair
When the front end is defective, replace it by a new one because its internal block is difficult to repair.

FM Auto Scan/Stop Level Adjustment

Setting :

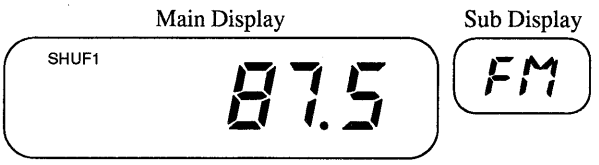
TUNER button : FM



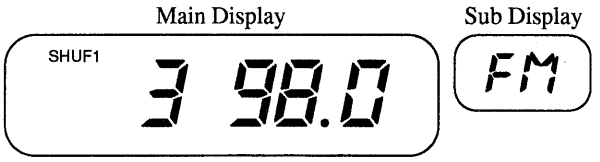
Carrier frequency : 98.0MHz
Output level : 22dB (12.6μV)
Mode : mono
Modulation : no modulation

Procedure :

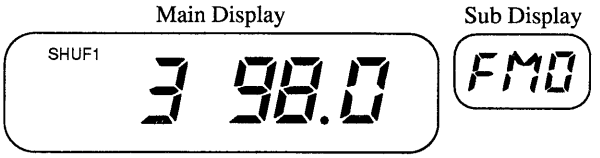
1. Set to the test mode. (See page 24.)
2. Push the [TUNER] button and set to FM.



3. Push the preset [3] button.



4. Push the [SEEK/AMS+▶▶I] button.
5. Adjust with the volume RV3 on TU1 so that the "FM" indication turns to "FM0" indication on the sub display window.
   But, in case of already indicated "FM0", turn the RV3 so that put out light "0" indication and adjustment.



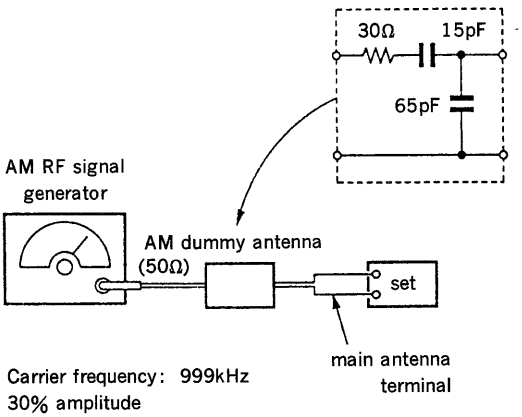
Specification : Stop sensitivity : 22dB±3dB

Note) "0" indication of sub display was align voltage of TP (SD).
TP (SD) voltage 0V →"0" light off
TP (SD) voltage 5V →"0" light on

MW Auto Scan/Stop Level Adjustment

Setting :

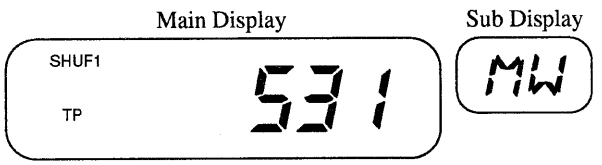
TUNER button : MW



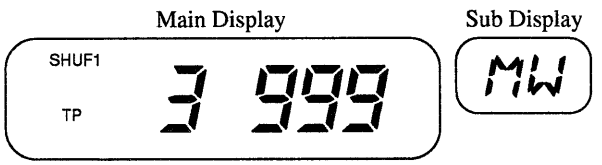
Carrier frequency : 999kHz
30% amplitude modulation by 400Hz signal
Output level : 33dB (44.7μV)

Procedure :

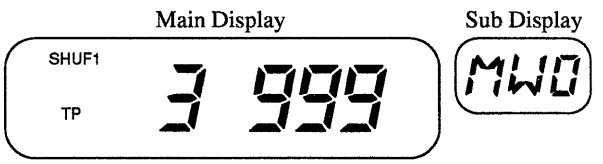
1. Set to the test mode. (See page 24.)
2. Push the [TUNER] button and set to MW.



3. Push the preset [3] button.



4. Adjust with the volume RV1 on TU1 so that the "AM" indication turns to "AM0" indication on the sub display window.
   But, in case of already indicated "AM0", turn the RV1 so that put out light "0" indication and adjustment.



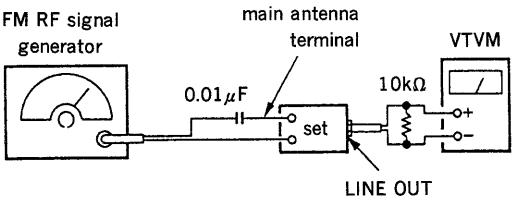
Specification : Stop sensitivity : 33dB±3dB

Note) "0" indication of sub display was align voltage of TP (SD).
TP (SD) voltage 0V →"0" light off
TP (SD) voltage 5V →"0" light on

High Cut Control Effect Adjustment

Setting :

TUNER button : FM



Carrier frequency : 98.0MHz
Output level : 60dB (1mV)
Mode : mono
Modulation : 1kHz, 75kHz deviation

Procedure :

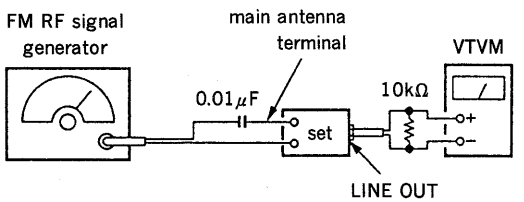
1. Tune the 98.0MHz.
2. The then output level is supposing that (A) dB.
3. Adjust with the volume RV2 on TU1 so that the output level is (A)−6dB then signal generator input set to 20dB.

Adjustment Location : main board (TU1)

FM Noise Focus Adjustment

Setting :

TUNER button : FM



Carrier frequency : 98.0MHz
Output level : 60dB (1mV)
Mode : mono
Modulation : 10kHz, 75kHz deviation

Procedure :

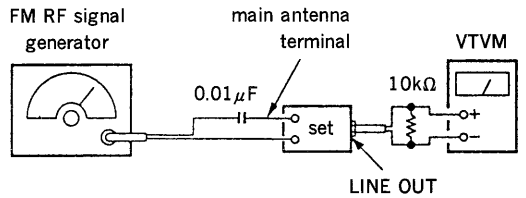
1. Tune the 98.0MHz.
2. The then output level is supposing that (B) dB.
3. Adjust with the volume RV5 on TU1 so that the output level is (B)−30dB then signal generator input set to 20dB.

Adjustment Location : main board (TU1)

FM Stereo Separation (60dB) Adjustment

Setting :

TUNER button : FM



Carrier frequency : 98.0MHz
Output level : 70dB (3.2mV)
Mode : stereo
Modulation : main : 1kHz, 33.75kHz deviation (45%)
sub : 1kHz, 33.75kHz deviation (45%)
19kHz pilot : 7.5kHz deviation (10%)

Procedure :

FM stereo signal generator output channel	VTVM connection	VTVM reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RV4 for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RV4 for minimum

L-CH Stereo separation : Ⓐ − Ⓑ
R-CH Stereo separation : Ⓒ − Ⓓ
The separations of both channels should be equal.

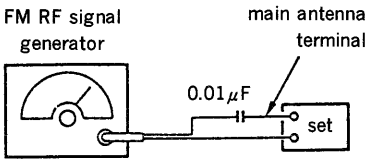
Specification : Separation more than 30dB

Adjustment Location : main board (TU1)

FM Signal Meter Adjustment

Setting :

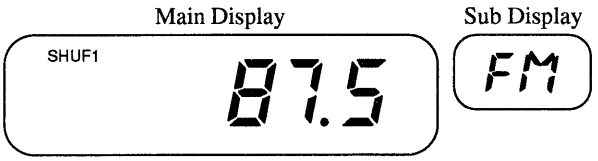
TUNER button : FM



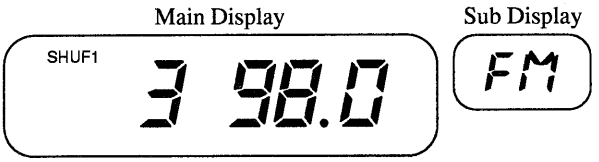
Carrier frequency : 98.0MHz
Output level : 33dB (44.7μV)
Mode : mono
Modulation : no modulation

Procedure :

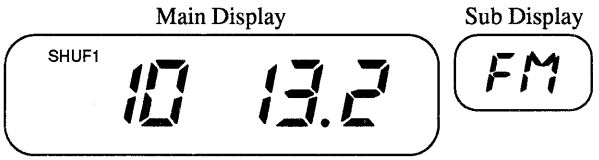
1. Set to the test mode. (See page 24.)
2. Push the [TUNER] button and set to FM.



3. Push the preset [3] button.

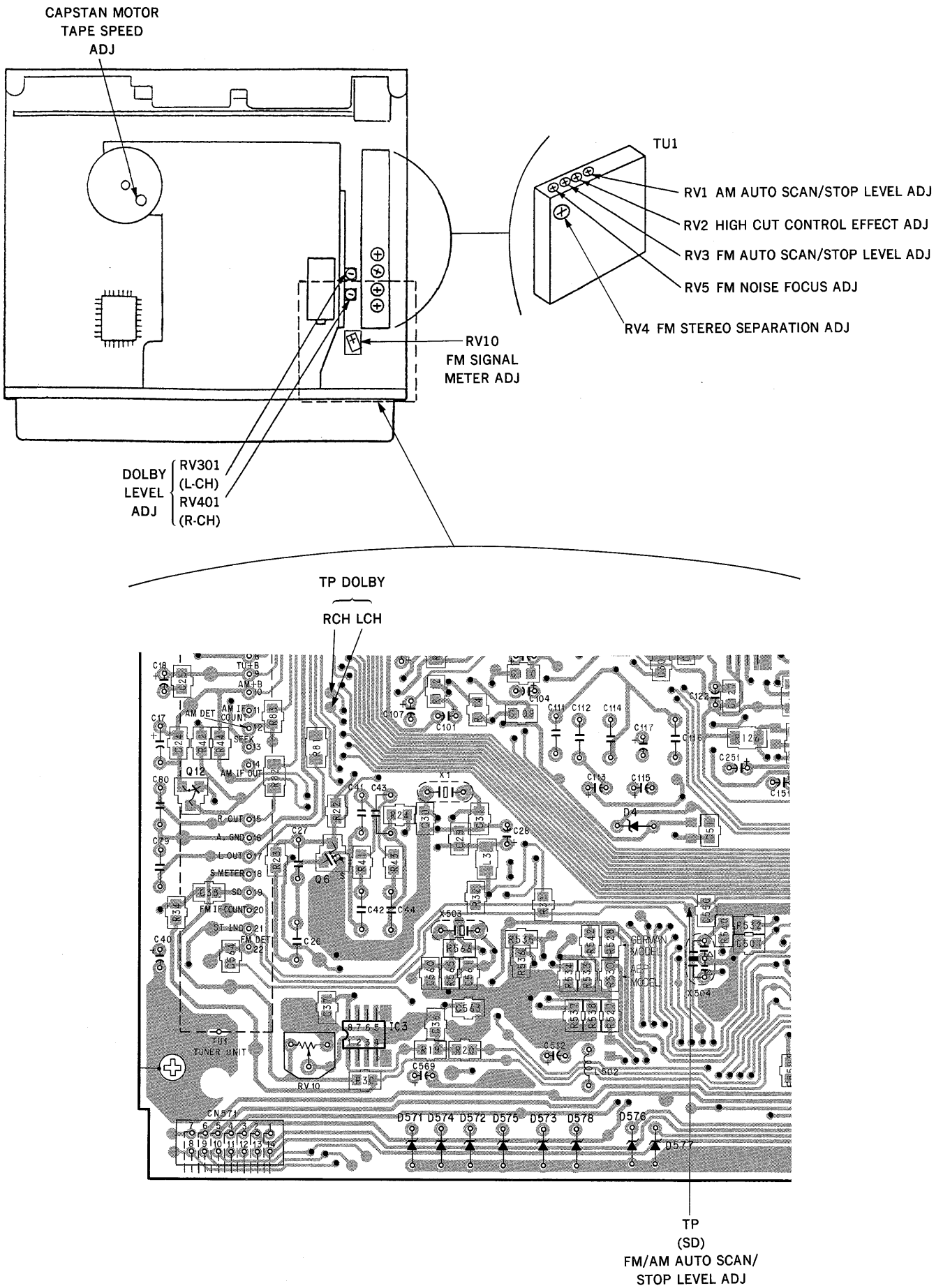


4. Push the [10] button.
5. Adjust RV10 so that the main display indication is "13.2".



Specification : Main display indication : 13.0 to 13.4

Adjustment Location :



SECTION 5
DIAGRAMS

5-1. PIN FUNCTIONS

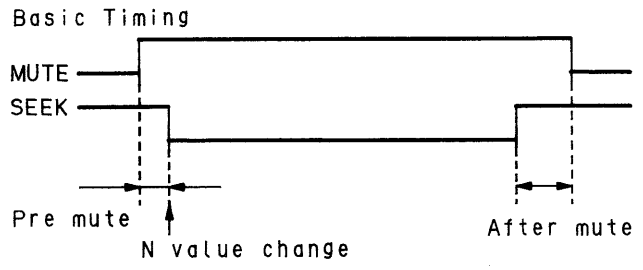
• IC501 μPD75518GF-131-3B9

Pin No.	Signal	Pin Name	I/O	Pin Function
1	KEY-IN0	KI0	I	KEY input
2	P-ON 5V (Ref)	AVDD	—	A/D reference voltage of KEY input.
3, 4	VDD	VDD	—	B/U 5V power
5	KEY-ACTIVE	KEY-ACT	I	ON for A/D port. H : Possible the KEY input.
6	P-ON	P-ON	O	When the POWER ON to output the H. To ON for AUDIO and AMP-REM.
7	ILL-ON	ILL-ON	O	When the ACC ON to output the H. To ON for illumination and LCD.
8	COLOR	COLOR	O	Select the illumination color. H : Green, L : Yellow
9	MUTE	MUTE	O	MUTING output. MUTE ON : H output
10	AUX-MUTE	AUX-MUTE	O	Not use
11	DOLBY $\overline{\text{OFF}}$/ON	DOLBY-$\overline{\text{OFF}}$/ON	O	ON/OFF signal output of DOLBY NR. ON : H, OFF : L
12	DOLBY $\overline{\text{B}}$/C	DOLBY-$\overline{\text{B}}$/C	O	Select signal output of DOLBY NR.
13	SUB-CLK	SUB. VOL-CLK	O	Control output at SUB VOLUME IC102. Control at LCD DRIVER IC701.
14	SUB-DATA	SUB. VOL-DATA	O	
15	SUB-CE	SUB. VOL-CE	O	
16	LCD-INH	LCD-INH	O	
17	—	NC	—	
18	LCD-DATA	LCD-DATA	O	
19	LCD-CLK	LCD-CLK	O	
20	LCD-CD	LCD-CD	O	
21	VOL-CE	VOL-CE	O	Control output at ELECTRONIC VOLUME IC101
22	AMP-ON	AMP-ON	O	Not use
23	VOL-CLK	CLK. OUT-VOL	O	Control output at ELECTRONIC VOLUME IC101
24	VOL-DATA	DATA. OUT-VOL	O	
25	TAPE MUTE	TAPE MUTE	O	When to MUTING for TAPE, output H.
26	METAL	MTL	O	METAL : H, NORMAL : L
27	LM-EJECT	EJECT	O	Control output at LOADING MOTOR. EJECT : H
28	LM-LOAD	LOAD	O	Control output at LOADING MOTOR. LOAD : H
29	POS 3	POS 3	I	TAPE POSITION detection input
30	POS 2	POS 2	I	
31	POS 1	POS 1	I	
32	POS 0	POS 0	I	
33	GND	GND	—	GND
34	REEL2	REEL 2	I	TAPE rotation detection input. Only one side input : Judge the no tape. Both no input : Judge the tape end.
35	REEL1	REEL 1	I	
36	N/$\overline{\text{R}}$	NOR/$\overline{\text{REV}}$	I	DIRECTION signal input of TAPE, H : Forward, L : Reverse
37	$\overline{\text{AMS IN}}$	$\overline{\text{AMS-IN}}$	I	AMS signal input. L : Tape sound is present, H : Tape sound is not present
38	PL-OUT	PL-OUT	O	Plunger drive control output. H : ON
39	CM-OUT	CM-OUT	O	For capstan motor output
40	SUB-VOL SELECT	$\overline{\text{SUB. VOL-SEL}}$	O	Connect to GND.
41	T-POL	ST-IN	—	Normally, fixed L (GND).

Pin No.	Signal	Pin Name	I/O	Pin Function
42	SYSTEM RESET	$\overline{\text{SYS-RES}}$ UNI-L	O	For UNILINK output
43	BUS ON	$\overline{\text{BUS-ON}}$ UNI-L	O	
44	CLK-OUT	CLK-OUT	O	
45	BEEP	BEEP	O	Buzzer output
46	$\overline{\text{ACC-CHECK}}$	$\overline{\text{ACC-CHECK}}$	I	ACC detection input
47	KEY-ACKIN	$\overline{\text{KEY-ACK}}$	I	When the this set is sleep mode, detect to pressing key.
48	—	JOYSTICK-ACK	—	Not use
49	$\overline{\text{SIRCS IN}}$	$\overline{\text{SIRCS-IN}}$	I	Remote commander signal input
50	DATA IN	DATA-IN UNI. LINK	I	For UNILINK input/output
51	DATA OUT	DATA-OUT UNI. LINK	O	
52	CLK-IN	CLK-IN UNI-LINK	I	
53	B/U-CHECK	$\overline{\text{B/U-CHECK}}$	I	B+ voltage detection input
54	GND	GND	—	GND
55, 56	—	XT1, XT2	—	Not use
57	GND	IC	—	GND
58	X1	X1	O	Crystal oscillator connect pin (4.19MHz)
59	X2	X2	I	
60	$\overline{\text{RESET}}$	$\overline{\text{RESET-IN}}$	I	Microcomputer RESET input
61	ANT ON	ANT-REM	—	Not use
62—64	—	—	—	Not use
65	—	SD-IN	—	Fix the L (GND)
66	—	$\overline{\text{TEL. MUTE}}$	—	Telephone call detect pin. H : Mute −20dB audio signal
67	—	CAUTION-SEL	—	Fix the L (GND)
68	—	NOSE-SW	—	Nose presence detection pin
69, 70	—	MODE1, MODE2	—	Not use
71	AUDIO SEL 1	AUD. SEL. 1	—	
72	AUDIO SEL 2	AUD. SEL. 0	—	
73	A/D GND	ANALOG. GND	—	GND
74	EQ ON	EQ-ON	O	EQ control output. H : SUB and FAD control, L : No output
75	POWER SELECT	P. SEL-SW	I	P-SEL input. L : P-SEL OFF setting (to cope with cars without accessory position)
76	Joistick-IN2	JOYSTICK-IN2	I	Rotary commander input
77	Joistick-IN1	JOYSTICK-IN1	I	Rotary commander input
78	DSP	$\overline{\text{DSP}}$	I	DSP control select input. L : Use
79	TV	$\overline{\text{TV}}$	I	TV control select input. L : Use
80	KEY-IN1	KI1	I	KEY input

• IC502 MN1882417SNU1

Pin No.	Signal	Pin Name	I/O	Pin Function
1—6	P55—P50	RAM-A05—RAM-A00	O	S-RAM ADDRESS CONTROL output pins which connect with ADDRESS input pins of IC504 S-RAM LH5116N3.
7	VDD	VDD	I	Power input pin
8	OSC1	X1	—	Oscillator connecting pin (8MHz)
9	OSC2	X2	—	
10	VSS	GND	—	GND pin
11	XI	XTI	I	Not used (GND).
12	XO	XTO	O	Not used (OPEN).
13	EX2	EX2	—	Connected to GND.
14	$\overline{\text{RST}}$	$\overline{\text{RESET}}$	I	Reset input pin for input of $\overline{\text{RESET}}$ ANDed with $\overline{\text{SYSTEM-RESET}}$.
15	P26	RDS-CLK	I	RDS-CLK input pin which connects with CLK-OUT of IC506 RDS decoder, TDA7330BD.
16	P25	BU-CHECK	I	Input pin to detect BACK-UP detection, used for interrupt.
17	P24	BUS-ON	I	BUS INTERFACE bus ON input pin to detect ON/OFF of the bus, used for interrupt.
21—25	P77—P70	RAM-D7—RAM-D0	I/O	S-RAM DATA BUS input/output pins which connect with DATA pins of IC504 S-RAM LH5116N3.
26	P47	RAM-RE	O	S-RAM READ ENABLE output pin which connects with $\overline{\text{OE}}$ pin of IC504 S-RAM LH5116N3.
27	P46	RAM-WE	O	S-RAM WRITE ENABLE output pin which connects with $\overline{\text{WE}}$ pin of IC504 S-RAM LH5116N3.
28	P45	TERM	—	Not used (OPEN).
29	P44	R/W	—	
30	P95	RDS-DATA	I	RDS-DATA input pin which connects with DATA output pin of IC506 RDS decoder, TDA7330BD.
31	P94	DEV-SENS	I	Not used (OPEN).
32—35	P43—P40	S3—S0	O	
36, 37	P22, P21	——	I	Not used (GND).
38	P20	PLL-DI	I	PLL DATA input pin which connects with DATA-OUT pin of IC2 PLL LC7216M.
39	P17	PLL-DO	O	PLL DATA output pin which connects with DATA-IN pin of IC2 PLL LC7216M.
40	P16	PLL-CLK	O	PLL CLK output pin which connects with CLK-IN pin of IC2 PLL LC7216M.
41	P15	PLL-CE	O	PLL CE output pin which connects with CE-IN pin of IC2 PLL LC7216M.
42	P14	REQUEST	O	BUS INTERFACE REQUEST pin which sends "H" signal for request to communicate.
43	P13	LINK-OFF	O	BUS INTERFACE INT-LINK pin which is set "H" during LINK-OFF and "L" when the bus is connected.
44	P12	SCK	I	BUS INTERFACE CLK-IN pin.
45	P11	SI	I	BUS INTERFACE DATA-IN pin.
46	P10	SO	O	BUS INTERFACE DATA-OUT pin.
47	VDD	VDD	—	Power pin
48	AVDD	AVDD	—	AD input port power pin which is shorted with pin ㊼, VDD.

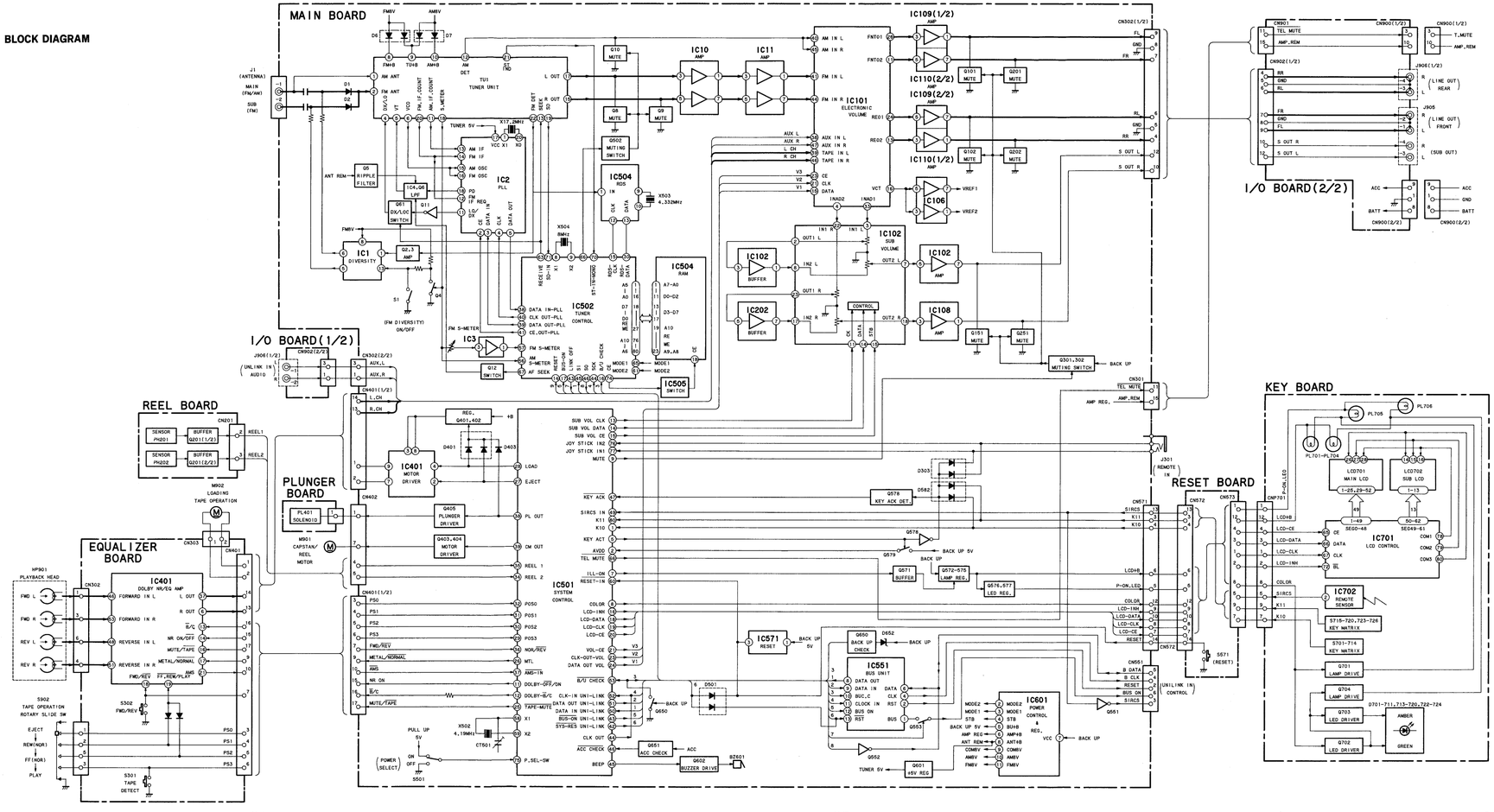
<table>
<tr><th>Pin No.</th><th>Signal</th><th>Pin Name</th><th>I/O</th><th>Pin Function</th></tr>
<tr><td>49</td><td>VREF</td><td>VREF+</td><td>I</td><td>AD port reference voltage input (positive side) which is supplied from AVREF of MASTER micro computer.</td></tr>
<tr><td>50—53</td><td>AD7—AD4</td><td>——</td><td>—</td><td>Not used (GND).</td></tr>
<tr><td>54
55</td><td>AD3
AD2</td><td>DIST-SEL1
DIST-SEL0</td><td>I
I</td><td>MODE select input used for setting of band selection, read when the port is reset.
<table>
<tr><th>SEL0</th><th>SEL1</th><th>BAND</th></tr>
<tr><td>L</td><td>L</td><td>FM+MW+LW</td></tr>
<tr><td>L</td><td>H</td><td>FM+MW+SW</td></tr>
<tr><td>H</td><td>L</td><td>FM+AM</td></tr>
<tr><td>H</td><td>H</td><td>FM+AM</td></tr>
</table></td></tr>
<tr><td>56</td><td>AD1</td><td>AM-VSM</td><td>I</td><td rowspan="2">AM (MW, SW, LW)/FM S meter voltage detection pins, used for BTM and RDS (AF : NETWORK) functions.</td></tr>
<tr><td>57</td><td>AD0</td><td>FM-VSM</td><td>I</td></tr>
<tr><td>58</td><td>VREF</td><td>VREF−</td><td>—</td><td>AD port reference voltage input (negative side).</td></tr>
<tr><td>59</td><td>AVSS</td><td>AVSS</td><td>—</td><td>AD input port GND pin which is shorted with pin ㊽, VREF−.</td></tr>
<tr><td>60</td><td>VSS</td><td>GND</td><td>—</td><td>Power GND.</td></tr>
<tr><td>61</td><td>P37</td><td>TUNER-ON</td><td>O</td><td>TUNER-ON output pin which sends “H” signal while tuner is ON.</td></tr>
<tr><td>62</td><td>P36</td><td>DX/LO</td><td>O</td><td>Not used (OPEN).</td></tr>
<tr><td>63</td><td>P35</td><td>RECEIVE</td><td>O</td><td>SEEK OUT output pin (RECEIVE)
Also used for SEEK for AM (MW, LW, SW), STOP REQUEST (IF count output request) and AGC cut in BTM mode. In FM mode, this pin is used for SEEK, BTM and AF operation network search , EON-TA search, CX1X retrieval and PTY search and it is used to change the time constant of S meter output. It is active “L”, “H” during receive and “L” when the tuner is turned OFF.
 
</td></tr>
<tr><td>64</td><td>P34</td><td>AM-ON</td><td>O</td><td>Not used (OPEN).</td></tr>
<tr><td>65</td><td>P33</td><td>FM-ON</td><td>O</td><td>FM-ON output pin which sends “H” signal in FM mode (for both PLAYING and BIHIND).</td></tr>
<tr><td>66</td><td>P32</td><td>TUNER-MUTE</td><td>O</td><td>Mute output pin</td></tr>
<tr><td>67</td><td>P31</td><td>AF-SEEK</td><td>O</td><td>AF-SEEK output pin
This pin is used for FM band AF operation network search, EON-TA search, CX1X retrieval, and PTY search and it is used to change the time constant of low-pass filter. It is active “H” and set “L” when the tuner is turned OFF in AM mode.</td></tr>
<tr><td>68</td><td>P30</td><td>SRAM</td><td>O</td><td>External S-RAM control output pin which sends “H” signal in CPU operations.</td></tr>
<tr><td>69</td><td>P67</td><td>A15</td><td>O</td><td>Not used (OPEN).</td></tr>
<tr><td>70</td><td>P93</td><td>ST-IN-$\overline{\text{MONO}}$</td><td>I/O</td><td>Pin used for both ST-IND display input and forced MONO output. “L” input to this pin will turn stereo display ON. It provides “L” output for forced Monaural output.</td></tr>
</table>

Pin No.	Signal	Pin Name	I/O	Pin Function
71	P92	SD-IN	I	Used to determine the stop level of SEEK, AUTO-MEMORY, SCAN, etc.
72, 73	P66, P65	A14, A15	O	Not used (OPEN).
74	P64	RAM-CE	O	Connected to $\overline{CE}$ pin of IC504 S-RAM LH5116N3.
75	P63	——	—	Not used (OPEN).
76—78	P62—P60	RAM-A10—RAM-A08	O	S-RAM ADDRESS CONTROL output pins.
79, 80	P57, P56	RAM-A07—RAM-A06	O	Connected to ADDRESS pins of IC504 S-RAM LH5116N3.

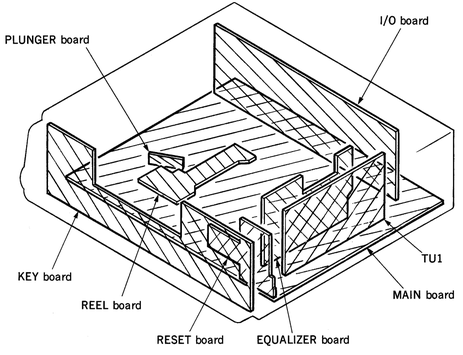
• IC2 LC7216M

Pin No.	Signal	Pin Name	I/O	Pin Function
1	XIN	XIN	I	Crystal oscillator connecting pin (7.2MHz).
2	CE	CE	I	Chip Enable input pin which connects with PLL-CE of IC502 tuner microcomputer, MN1882417.
3	DI	DATAIN	I	Data input pin which connects with PLL-DO of IC502 tuner microcomputer, MN1882417.
4	CL	CLK	I	Clock input pin which connects with PLL-CLK of IC502 tuner microcomputer, MN1882417.
5	DO	DATAOUT	O	Data output pin which connects with PLL-DI of IC502 tuner microcomputer, MN1882417.
6—10	——	—	—	Not used (OPEN).
11	OUT4	DX/$\overline{LO}$	O	DX/$\overline{LO}$ changeover output pin which sends "L" signal for LOCAL mode.
12	OUT5	FM-IF-REQ	O	FM IF COUNT request output pin. This pin sends "H" signal when IF count of FM band is performed. It provides "H" output only for operations that require IF count, such as SEEK and BTM. It provides "L" output in AM mode and for TUNER OFF.
13	LCTR	AM-IF $\overline{MONO}$	I	General purpose counter frequency measuring signal input pin. SC=0, SF=1, AM IF counter 15 to 500kHz.
14	HCTR	FM-IF	I	General purpose counter frequency measuring signal input pin. SC=1, FM IF count 10 to 60MHz.
15	AMIN	AM-OSC	I	AM OSC signal input pin. DV=0, 2—40MHz : SP=1, 0.5—10MHz : SP=0.
16	FMIN	FM-OSC	I	FM OSC signal input pin. DV=0, 10—130MHz.
17	VCC	VCC	—	Power pin
18	PD	PD	O	Charge pump output pin
19	VSS	VSS	—	GND pin
20	XOUT	XOUT	O	Crystal oscillator connecting pin (7.2MHz).

5-2. BLOCK DIAGRAM



5-3. CIRCUIT BOARDS LOCATION



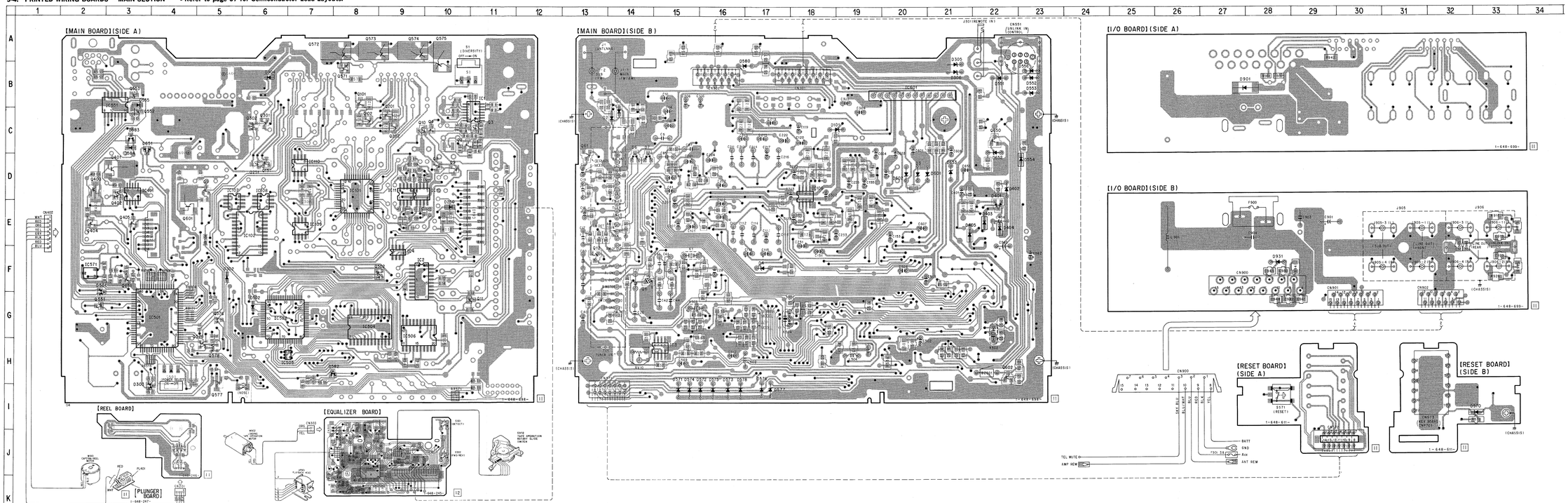
5-4. PRINTED WIRING BOARDS —MAIN SECTION— • Refer to page 57 for Semiconductor Lead Layouts.

• Semiconductor Location

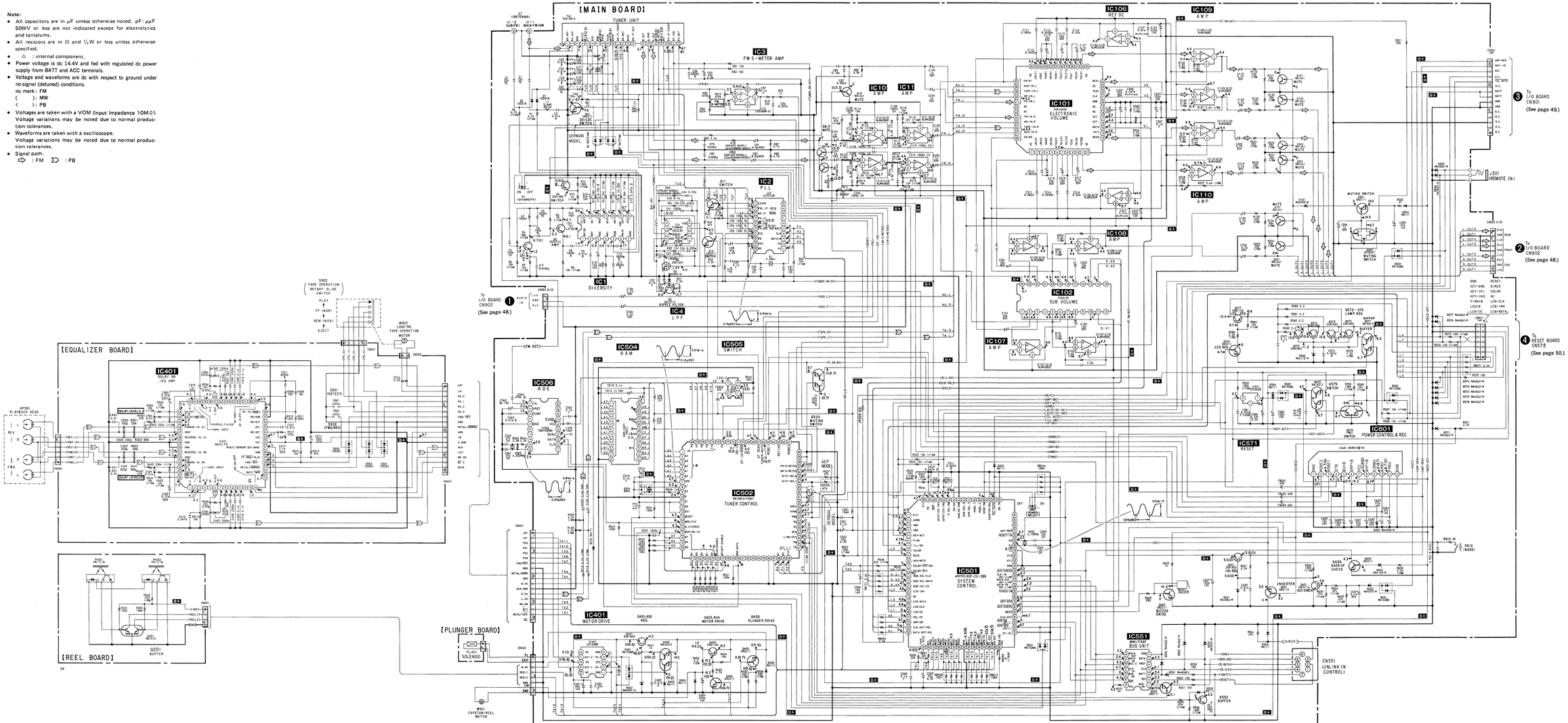
Ref. No.	Location	Ref. No.	Location
D1	C-14	IC107	E-5
D2	C-14	IC108	E-6
D3	D-20	IC109	E-7
D4	F-17	IC110	D-7
D6	D-14	IC401	D-3
D7	D-14	(IC401)	J-8
D101	C-18	IC501	G-4
D250	E-10	IC502	G-6
(D301)	J-9	IC504	G-8
D302	F-5	IC505	H-6
(D302)	J-9	IC506	G-9
D303	I-3	IC551	B-3
(D303)	J-10	IC571	F-2
D304	B-6	IC601	B-20
D305	B-21		
D306	B-21	PH201	I-3
D401	E-22	PH202	I-4
D402	D-22		
D403	E-22	Q2	C-10
D404	E-22	Q3	C-10
D405	E-21	Q4	C-10
D501	G-2	Q5	D-5
D502	G-6	Q6	F-14
D551	B-22	Q8	D-9
D552	B-23	Q9	D-10
D553	B-23	Q10	C-9
D554	D-22	Q11	G-10
D555	B-3	Q12	F-13
D556	B-23	Q101	B-8
D570	I-32	Q102	C-8
D571	I-15	Q151	D-6
D572	I-15	Q201	C-9
D573	I-16	(Q201)	J-4
D574	I-15	Q202	C-9
D575	I-16	Q231	D-6
D576	I-17	Q301	C-6
D577	I-17	Q302	C-6
D578	I-16	Q401	D-3
D580	B-16	Q402	D-3
D582	H-7	Q403	D-2
D583	C-3	Q404	E-2
D584	C-3	Q405	E-3
D601	D-20	Q502	F-8
D602	D-20	Q551	G-2
D651	D-3	Q552	C-3
D652	C-22	Q553	B-3
D653	D-21	Q571	B-8
D901	B-27	Q572	A-8
D931	F-28	Q573	A-8
		Q574	A-9
IC1	C-10	Q575	B-10
IC2	F-9	Q576	G-5
IC3	H-15	Q577	I-5
IC4	F-9	Q578	H-5
IC10	D-9	Q579	H-5
IC11	D-9	Q601	E-4
IC101	D-8	Q602	H-22
IC102	E-6	Q650	C-22
IC106	D-18	Q651	F-3

( ): MECHANISM BLOCK

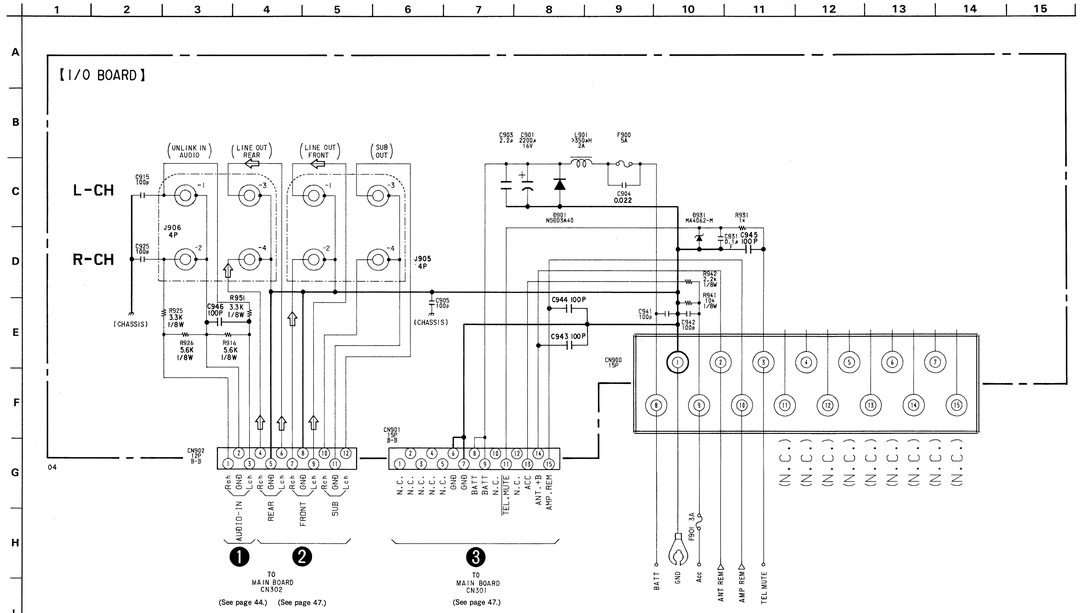
Note:
- ○——○ : parts extracted from the component side.
- ● : Through hole.
- ▒▒▒ : Pattern on the side which is seen.
- ▒▒▒ : Pattern of the rear side.



Note:
- All capacitors are in μF unless otherwise noted. pF: μμF
  50WV or less are not indicated except for electrolytics and tantaliums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- ⚠ : internal component.
- Power voltage is dc 14.4V and fed with regulated dc power supply from BATT and ACC terminals.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
  ( ) : MW
  < > : PB
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
  Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM ⇨ : PB

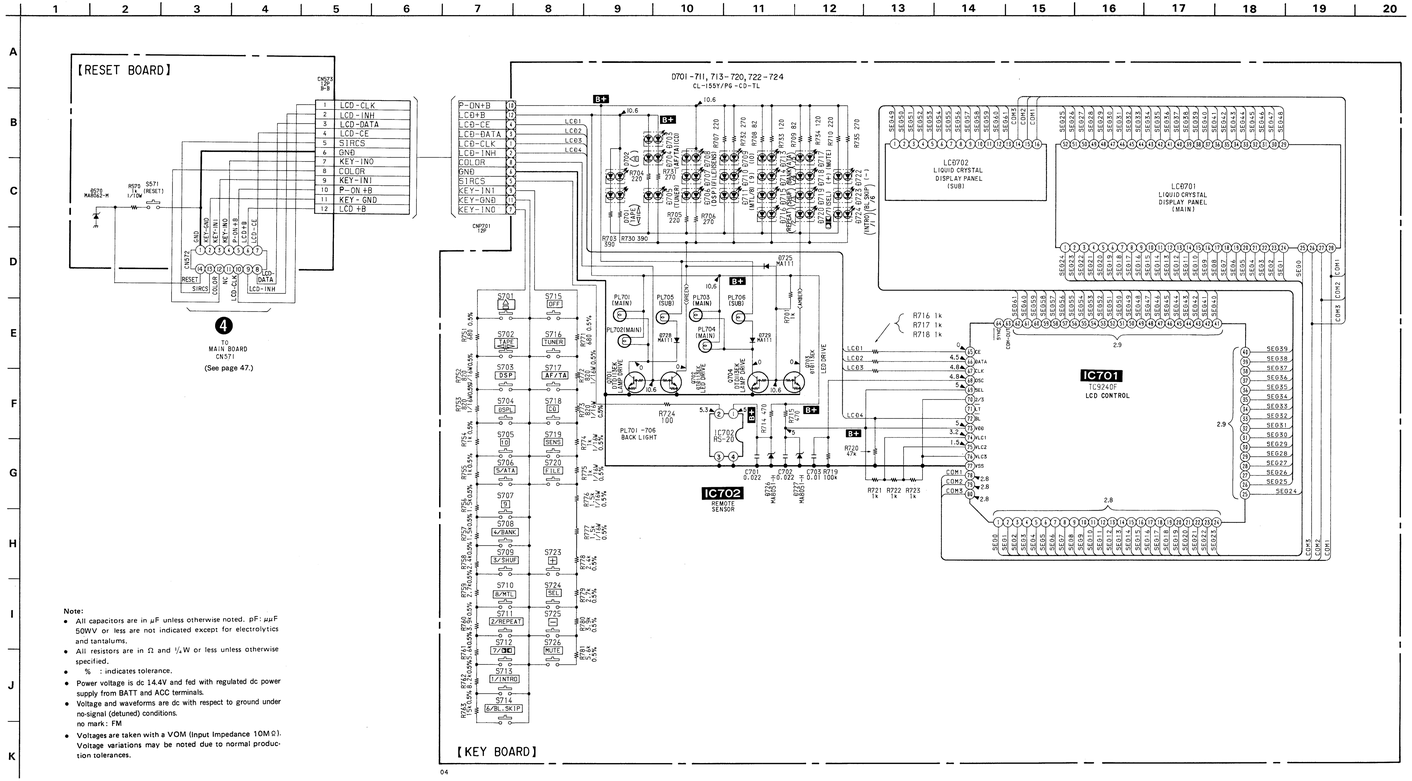


5-6. SCHEMATIC DIAGRAM —I/O SECTION—



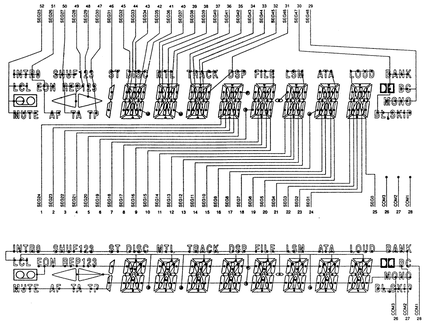
Note:
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantaliums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- Signal path.
  ⇨ : FM

5-7. SCHEMATIC DIAGRAM —PANEL SECTION—

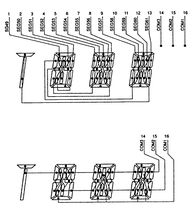


Note:
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantaliums.
- All resistors are in Ω and ¼W or less unless otherwise specified.
- % : indicates tolerance.
- Power voltage is dc 14.4V and fed with regulated dc power supply from BATT and ACC terminals.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark: FM
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.

● LCD701 (MAIN)

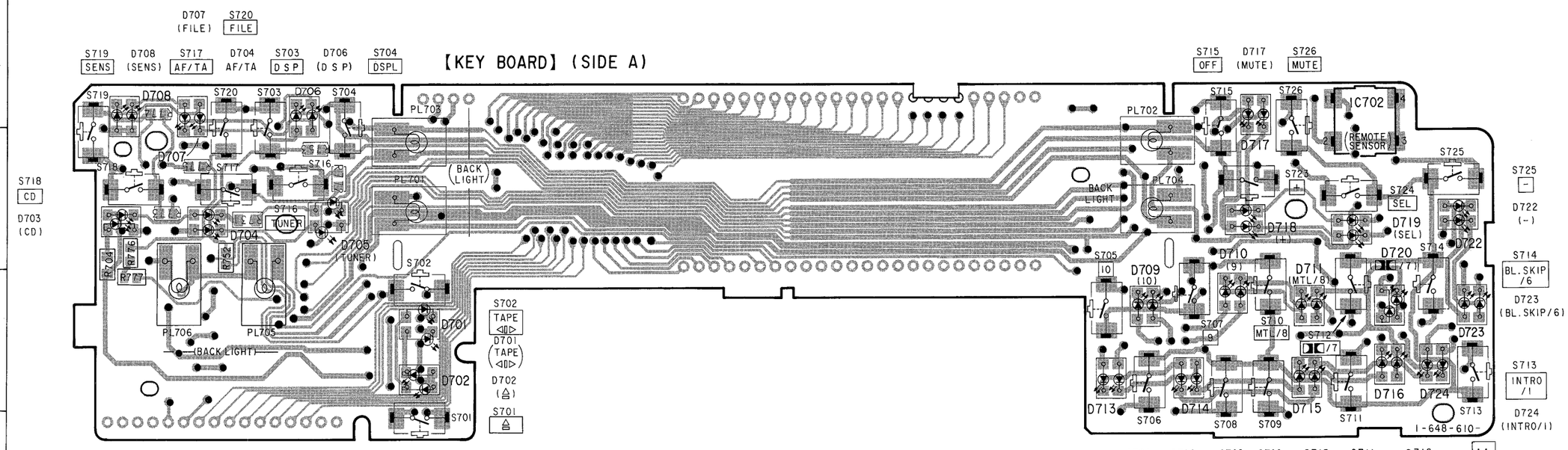


● LCD702 (SUB)

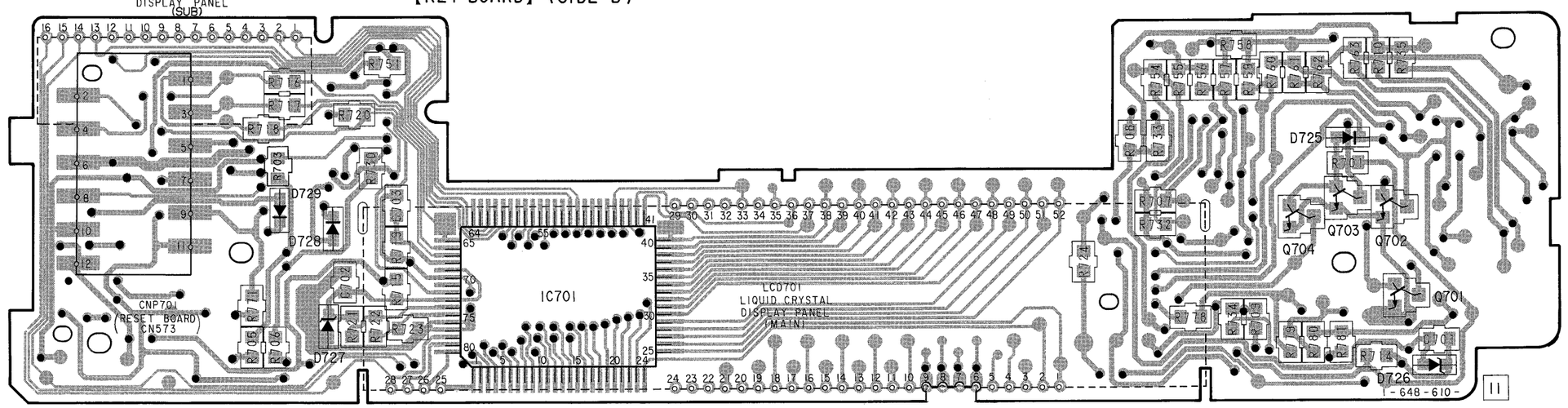


5-8. PRINTED WIRING BOARD —PANEL SECTION— • Refer to page 57 for Semiconductor Lead Layouts.

【KEY BOARD】 (SIDE A)



【KEY BOARD】 (SIDE B)



04

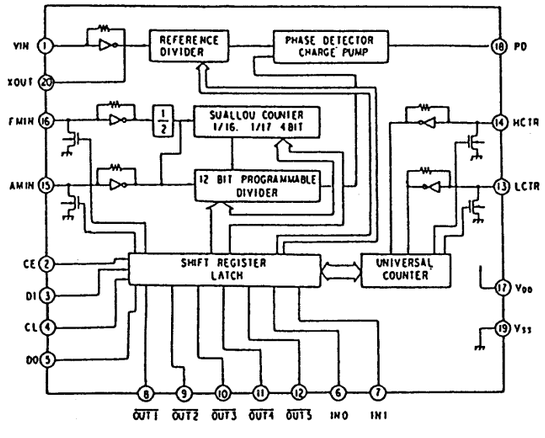
• Semiconductor Location

Ref. No.	Location
D701	C-3
D702	C-3
D703	B-1
D704	B-2
D705	B-3
D706	A-3
D707	A-2
D708	A-1
D709	C-9
D710	C-9
D711	C-10
D713	C-8
D714	C-9
D715	C-10
D716	C-10
D717	A-9
D718	B-9
D719	B-10
D720	C-10
D722	B-11
D723	C-11
D724	C-11
D725	E-10
D726	G-10
D727	F-3
D728	F-3
D729	F-3
IC701	F-5
IC702	A-10
Q701	F-10
Q702	F-10
Q703	F-10
Q704	F-9

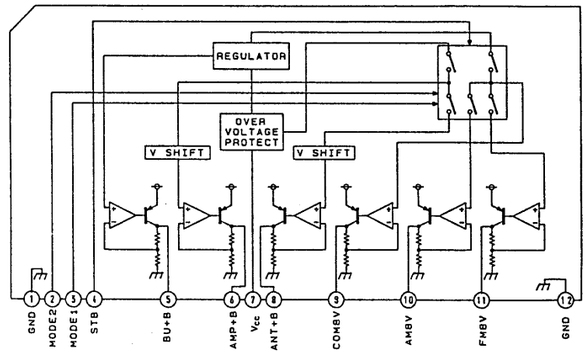
Note:
- ○—— : parts extracted from the component side.
- ● : Through hole.
- ▒▒ : Pattern on the side which is seen.

• IC Block Diagrams

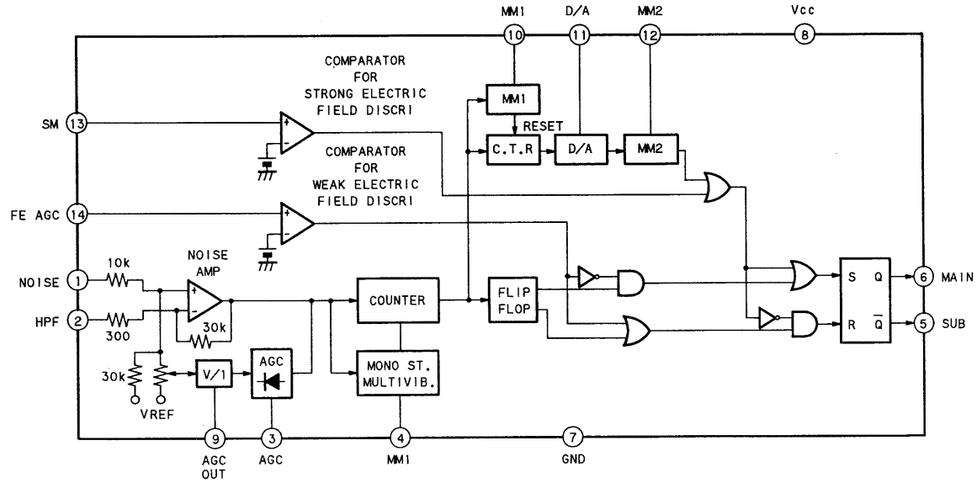
IC2 LC7216M



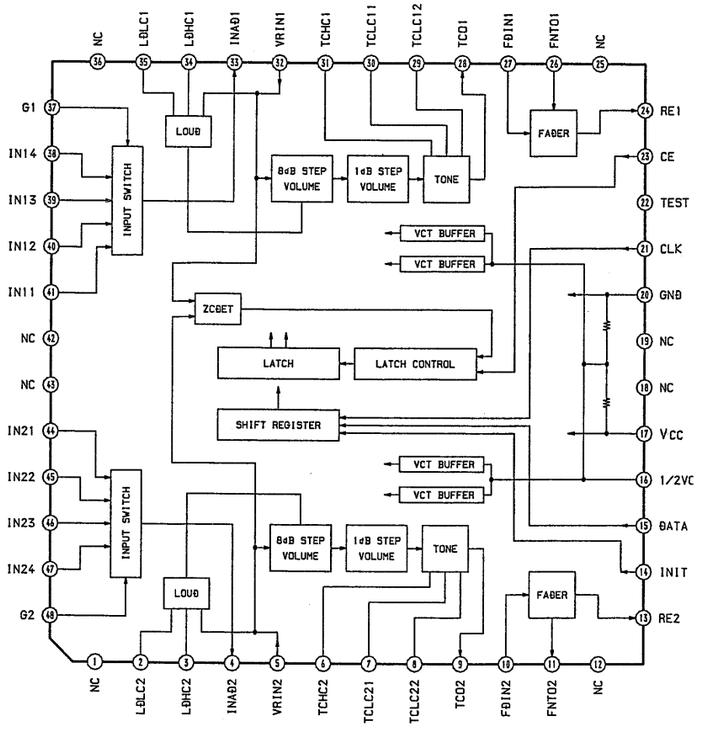
IC601 BA3910A-V2



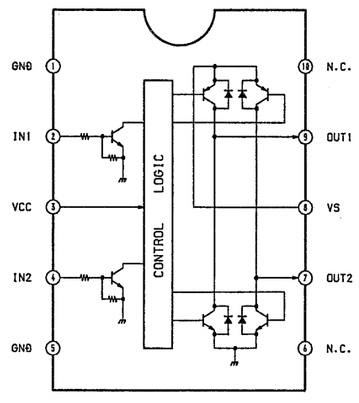
IC1 LA1060



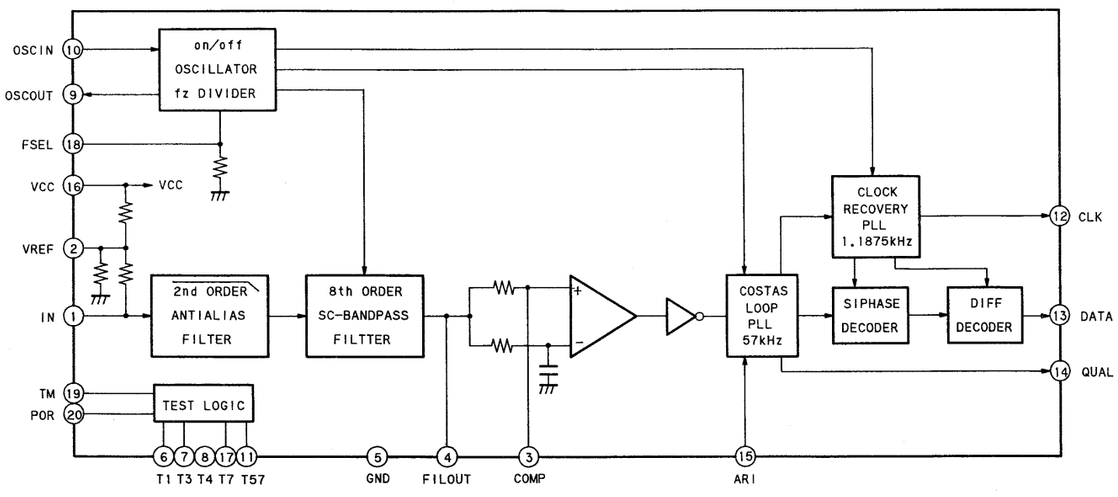
IC101 CXA1646Q


NC LBLC1 LBHC1 INAB1 VRIN1 TCHC1 TCLC11 TCLC12 TCD1 FBIN1 FNTO1 NC
G1 IN14 IN13 IN12 IN11 NC NC IN21 IN22 IN23 IN24 G2
INPUT SWITCH
LOUD
8dB STEP VOLUME
1dB STEP VOLUME
TONE
FADER
VCT BUFFER
ZCBET
LATCH
LATCH CONTROL
SHIFT REGISTER
RE1 CE TEST CLK GND NC NC VCC 1/2VC DATA INIT RE2
NC LBLC2 LBHC2 INAB2 VRIN2 TCHC2 TCLC21 TCLC22 TCD2 FBIN2 FNTO2 NC

IC401 LB1638M

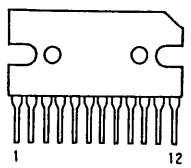


IC506 TDA7330

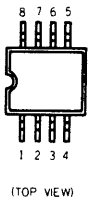


5-9. SEMICONDUCTOR LEAD LAYOUTS

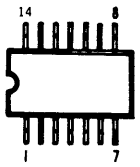
BA3910B-V2



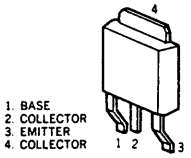
LM358D



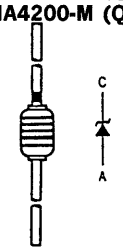
MM1175XF-T1



2SD1802-S



MA4039-M (QZ)
MA4056-M (QZ)
MA4062-M (QZ)
MA4068-L (QZ)
MA4075-M (QZ)
MA4091-H (QZ)
MA4110-M (QZ)
MA4160-M (QZ)
MA4200-M (QZ)



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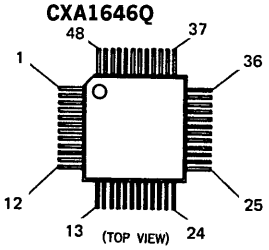

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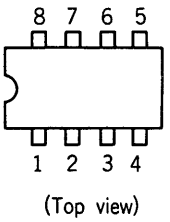
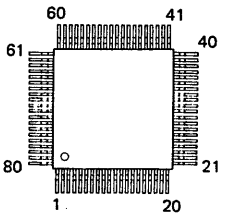
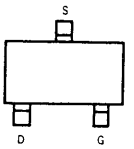


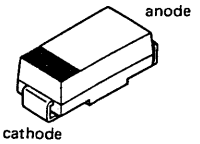
MN1882417SNU1



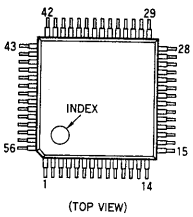
2SK1657-T1B



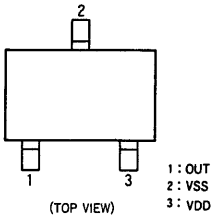
NSD03A40-TE16L



HA12174



PST600EMT-T1



DTD113EK
RN1441A-TE85L
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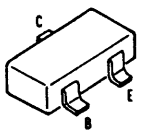
UN2211
UN5111
UN5113
UN5211-TX
2SA1586-YG
2SC2712-YG
2SC4116-GL



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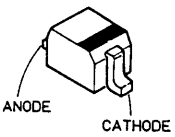
MA8051-H
MA8062-M



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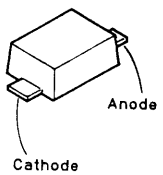

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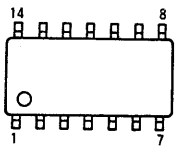
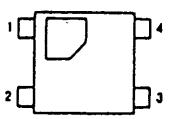


RS-20



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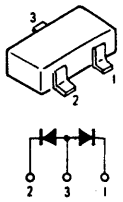
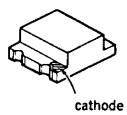


CL-155Y/PG-CD



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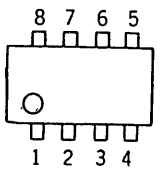

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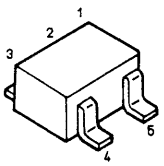
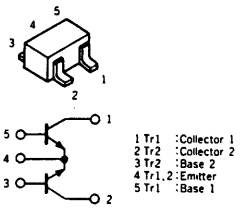
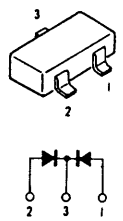


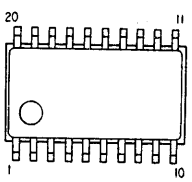
FMG1
XN1213



MA141WK
MA142WK
MA152WK



LC7216M



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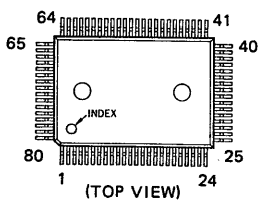

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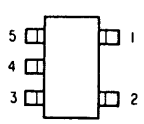

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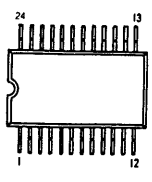

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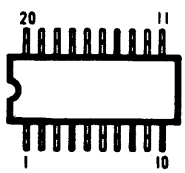

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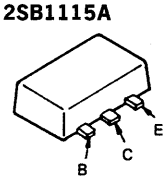
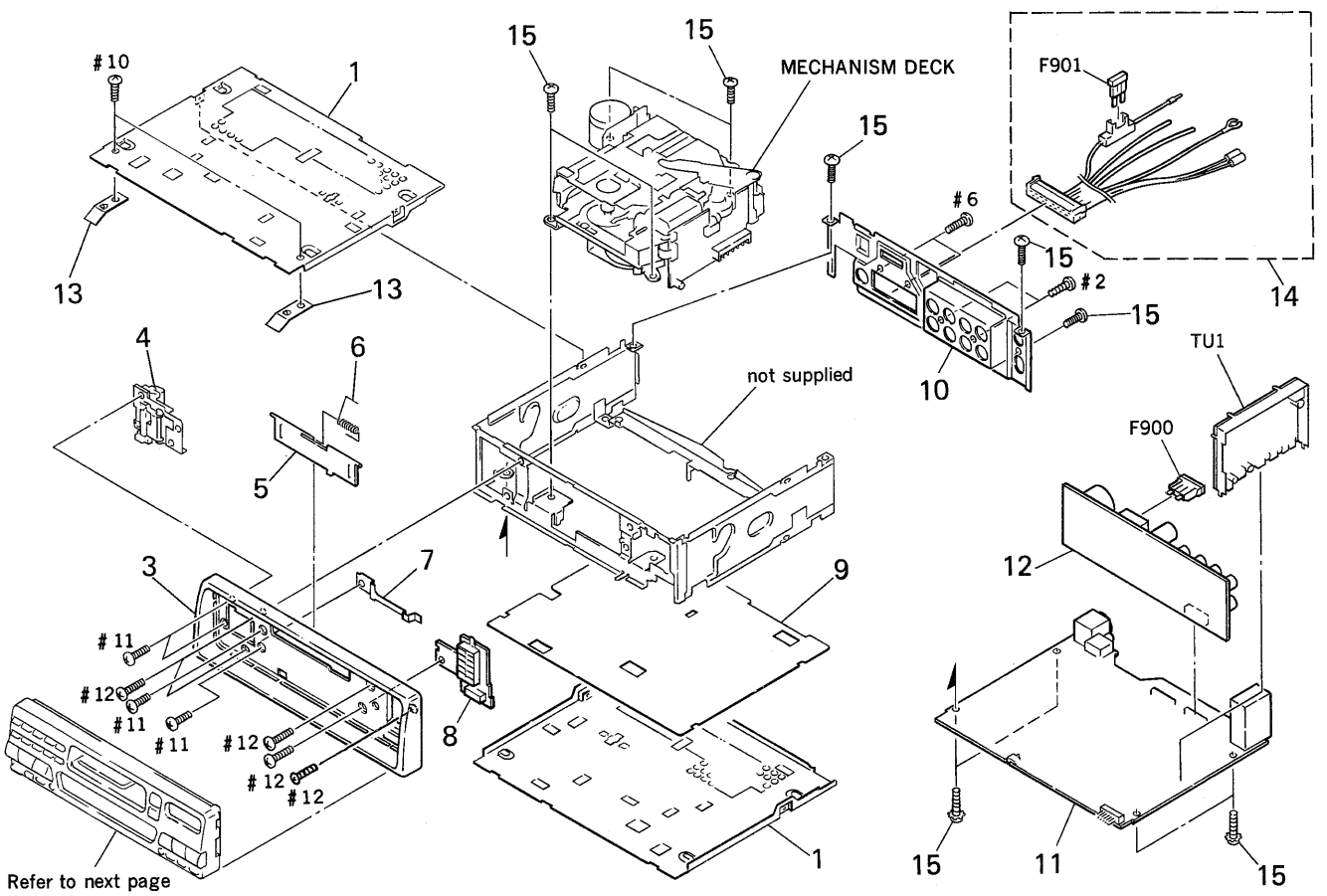


SECTION 6
EXPLODED VIEWS

NOTE:

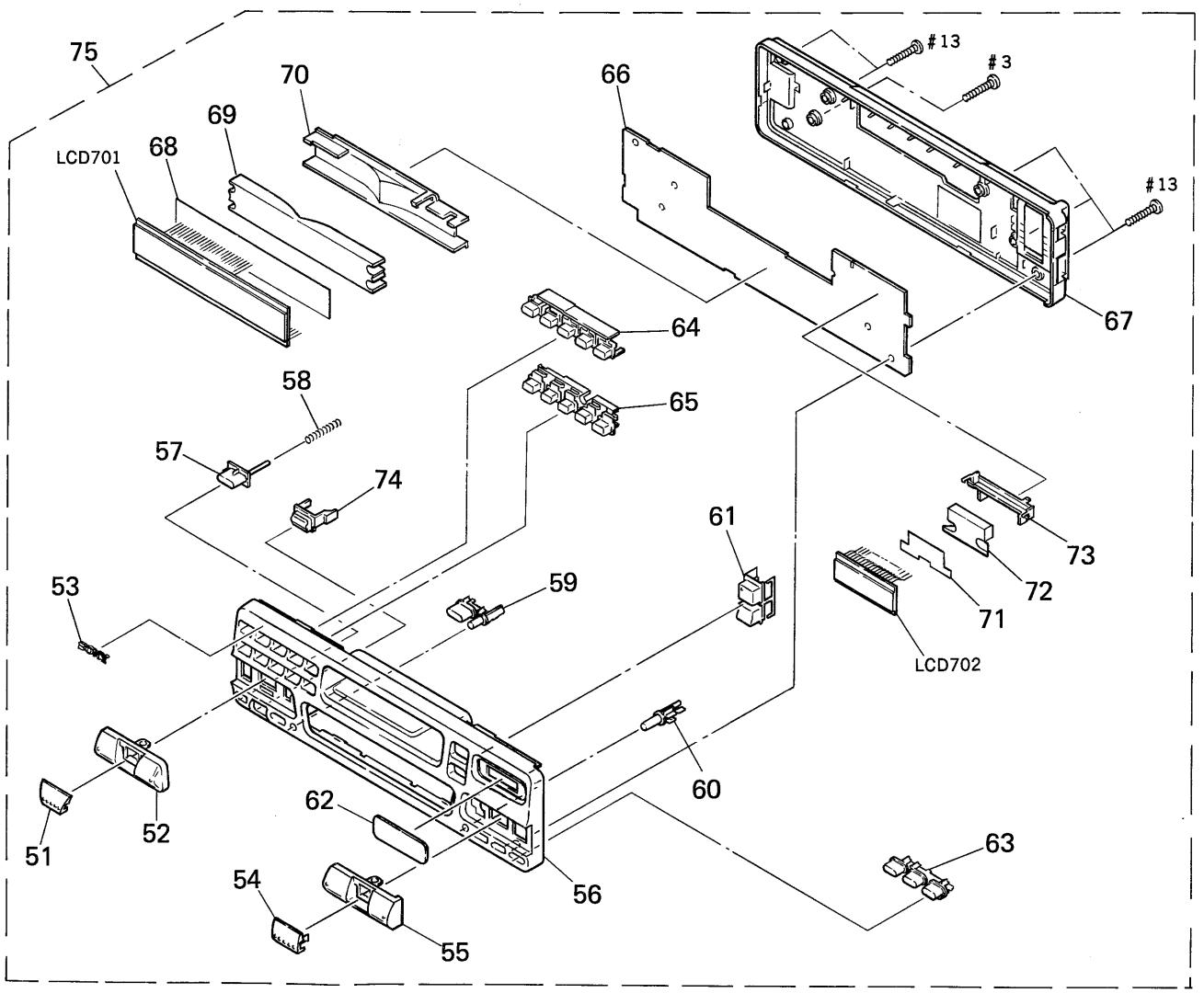
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE)... (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Hardware (# mark) list is given in the last of this parts list.

6-1. CHASSIS SECTION



Ref. No.	Part No.	Description	Remark
* 1	3-904-249-11	COVER	
3	3-904-179-01	PANEL, SUB	
4	X-3366-931-1	LOCK ASSY	
5	3-389-269-41	DOOR, CASSETTE (AEP)	
5	3-389-269-51	DOOR, CASSETTE (German)	
6	3-377-892-01	SPRING (C DOOR), TORSION	
7	3-904-181-01	SPRING (SW)	
* 8	1-648-611-11	RESET BOARD	
* 9	3-904-180-01	INSULATOR	
* 10	X-3366-876-1	PANEL ASSY, BACK	
* 11	A-3295-649-A	MAIN BOARD, COMPLETE (AEP)	
* 11	A-3295-653-A	MAIN BOARD, COMPLETE (German)	
* 12	1-648-699-11	I/O BOARD	
* 13	3-386-597-01	PLATE, LOCK	
14	1-751-264-21	CORD (WITH CONNECTOR)	
15	3-905-560-01	SCREW (2.6X6) (CU), +PTT	
F900	1-532-796-11	FUSE (BLADE TYPE) (AUTO FUSE) (5A)	
F901	1-533-326-11	FUSE (BLADE TYPE) (AUTO FUSE) (3A)	
* TU1	A-3282-003-A	TUNER UNIT (TUX-001A)	

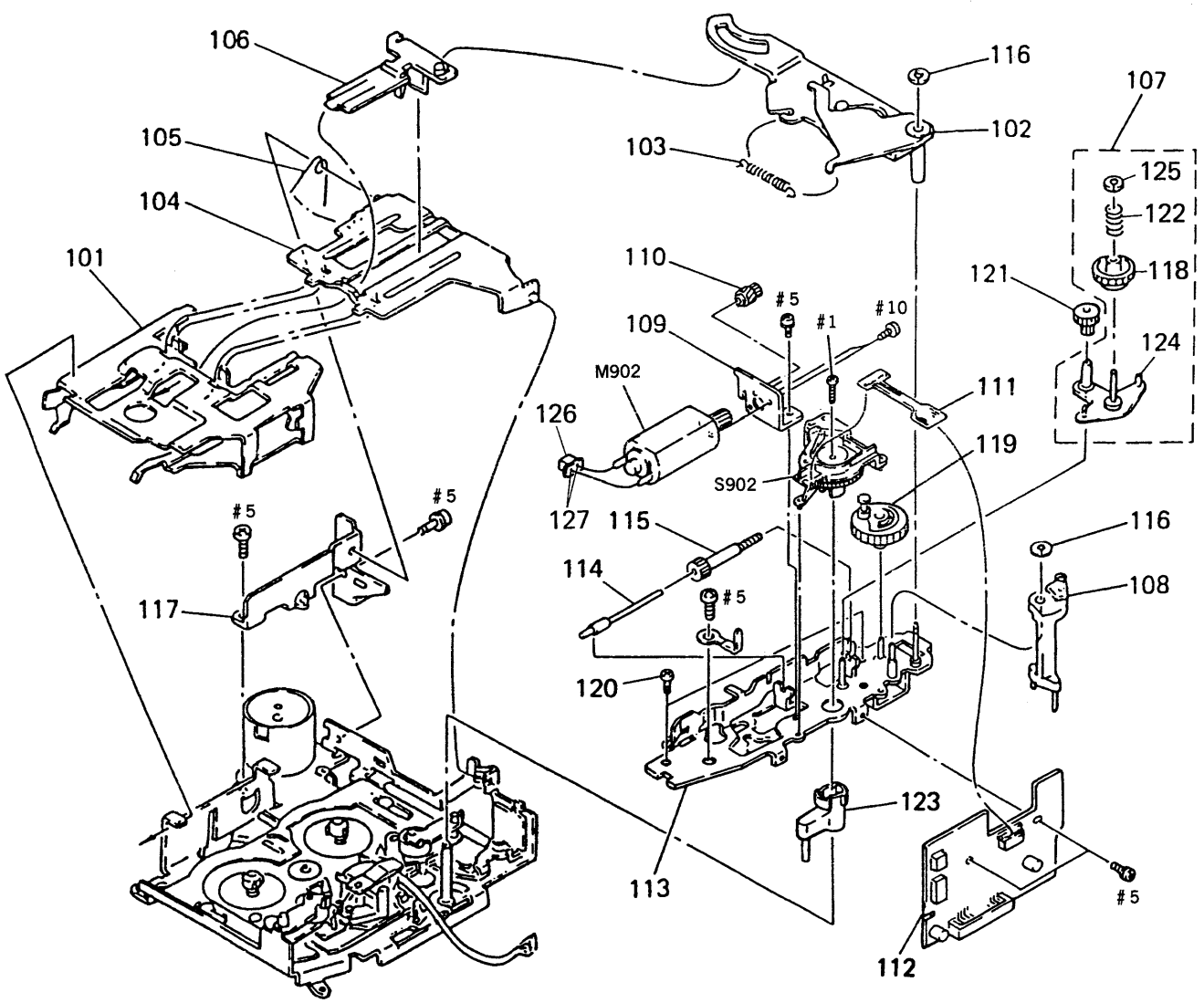
6-2. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
51	3-389-660-01	BUTTON (SELECT)	
52	3-389-668-01	BUTTON (+ -)	
53	3-904-194-01	EMBLEM (NO. 2.5), SONY	
54	3-389-664-21	BUTTON (AF/TA)	
55	3-389-666-01	BUTTON (TUNER, CD)	
56	3-904-574-01	PANEL (A), FRONT	
57	3-904-245-01	BUTTON (RELEASE)	
58	3-904-193-01	SPRING (RELEASE)	
59	3-904-243-01	BUTTON (MUTE)	
60	3-904-244-01	BUTTON (DSPL)	
61	3-389-663-01	BUTTON (⏏, TAPE◁▯▷)	
62	3-389-677-01	PLATE (A), INDICATION	
63	3-389-671-01	BUTTON (DSP, FILE, SENS)	
64	3-389-658-01	BUTTON (1-5)	

Ref. No.	Part No.	Description	Remark
65	3-389-662-01	BUTTON (6-10)	
* 66	A-3222-613-A	KEY BOARD, COMPLETE	
67	3-904-191-01	PANEL, FRONT BACK	
* 68	3-389-753-01	REFLECTOR (M), SHEET	
* 69	3-389-673-01	PLATE (M:LCD), LIGHT GUIDE	
* 70	3-389-672-01	HOLDER (M:LCD)	
* 71	3-389-754-01	REFLECTOR (SA), SHEET	
* 72	3-389-749-01	PLATE (SA:LCD), LIGHT GUIDE	
* 73	3-389-676-01	HOLDER (SA:LCD)	
74	3-389-669-01	FILTER (RAY CATCHER)	
* 75	A-3252-744-A	PANEL ASSY, FRONT	
LCD701	1-810-094-11	DISPLAY PANEL, LIQUID CRYSTAL (MAIN)	
LCD702	1-810-096-11	DISPLAY PANEL, LIQUID CRYSTAL (SUB)	

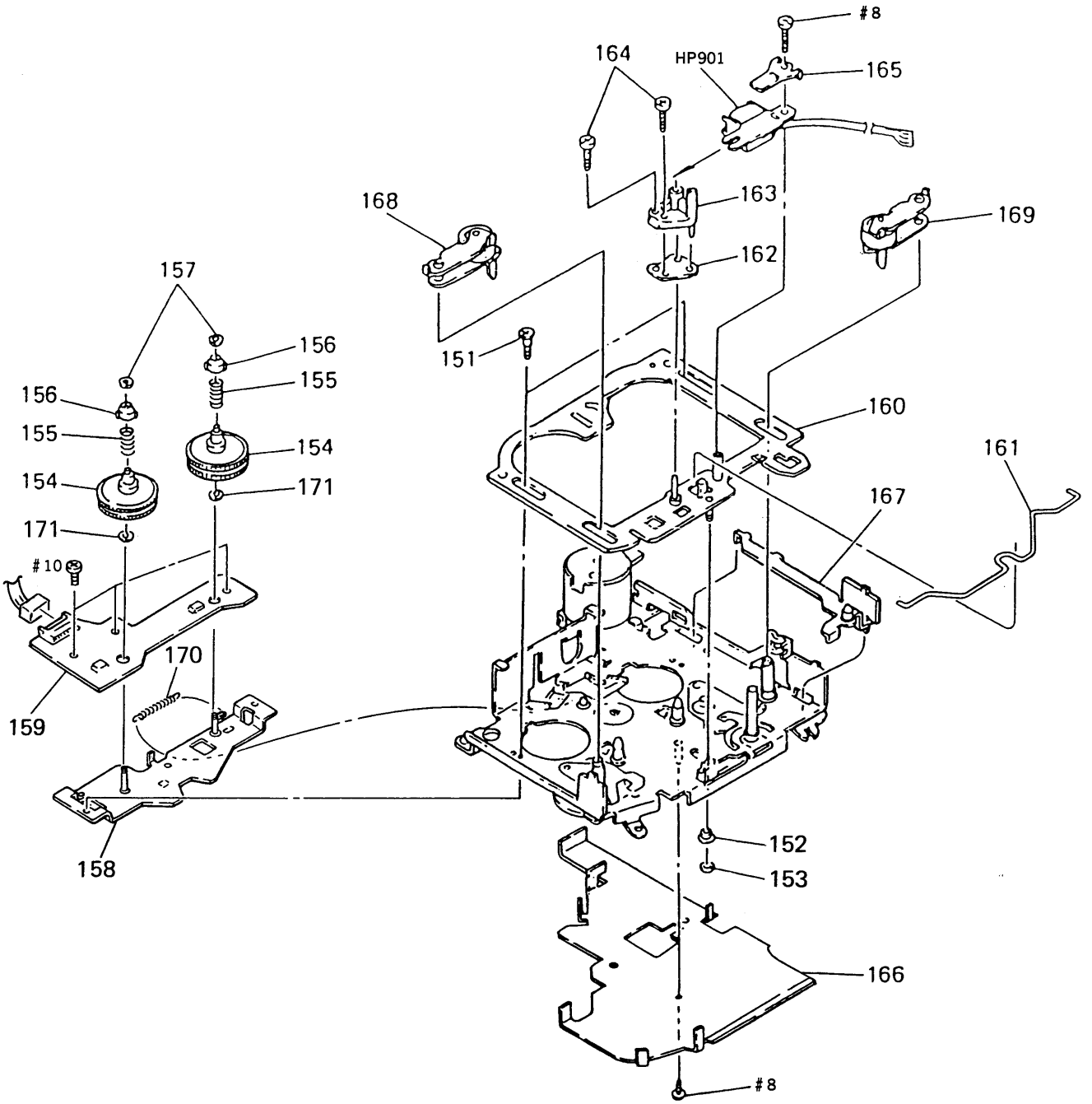
6-3. MECHANISM DECK SECTION 1 (MG-55PA-31)



Ref. No.	Part No.	Description	Remark
* 101	3-344-103-21	HOUSING, CASSETTE	
* 102	X-3344-121-1	ARM ASSY, SUCTION	
103	3-344-216-01	SPRING (SUCTION ARM), TENSION	
* 104	X-3362-262-1	HANGER (F) ASSY, HOUSING	
105	3-344-113-03	SPRING	
* 106	3-344-118-01	CATCHER	
* 107	A-3239-954-A	GEAR ASSY, DRIVING ARM	
* 108	3-375-458-01	ARM (M), REVERSE	
* 109	X-3344-142-2	BRACKET (F) ASSY, MOTOR	
110	3-344-281-01	GEAR (A), DRIVING	
111	1-635-519-12	ROTARY SWITCH FLEXIBLE BOARD	
* 112	A-3295-489-A	EQUALIZER BOARD, COMPLETE	
* 113	X-3362-260-3	CHASSIS (F) ASSY, MCU	
114	3-344-157-01	SHAFT, DRIVING GEAR (B)	
115	3-344-156-01	GEAR (B), DRIVING	

Ref. No.	Part No.	Description	Remark
116	3-344-222-01	WASHER	
* 117	3-368-239-13	BRACKET (U), HANGER	
118	3-344-165-02	GEAR (B), FRICTION	
119	X-3344-119-1	GEAR ASSY (L), LDG	
120	3-703-502-21	SCREW	
121	3-344-108-01	GEAR (A), FRICTION	
122	3-344-137-01	SPRING, COMPRESSION	
123	X-3344-117-1	ARM ASSY (L), MODE	
124	X-3344-109-4	ARM ASSY, DRIVING	
125	3-662-058-00	WASHER, SLIT	
126	1-565-121-11	HOUSING, CONNECTOR 2P	
* 127	1-565-163-11	TERMINAL, SOLDERLESS	
M902	X-3362-826-1	MOTOR ASSY	
S902	1-572-397-11	SWITCH, ROTARY SLIDE (TAPE OPERATION)	

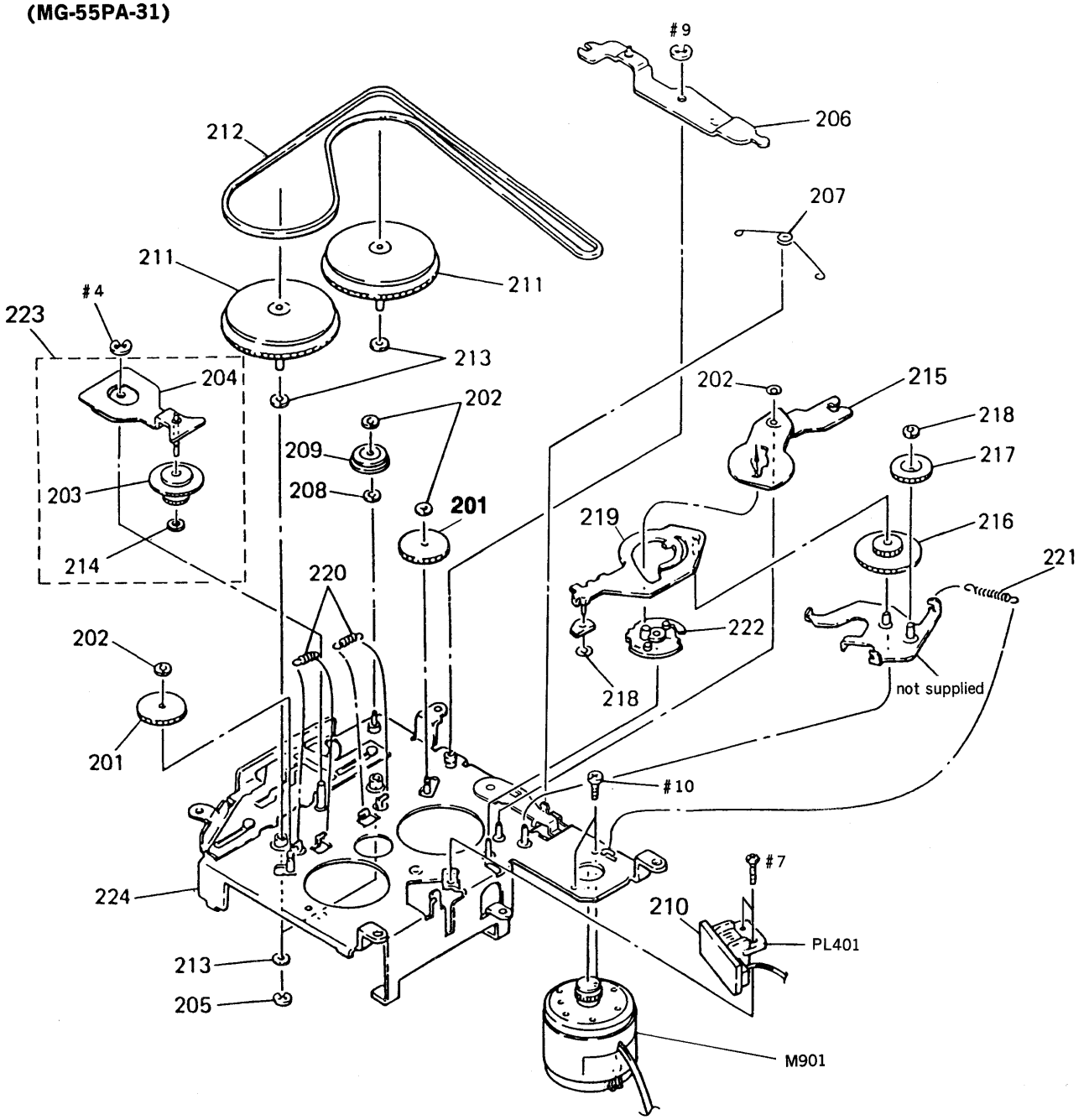
6-4. MECHANISM DECK SECTION 2 (MG-55PA-31)



Ref. No.	Part No.	Description	Remark
151	3-344-110-01	SCREW (HB), STEP	
152	3-344-116-01	ROLLER (A), H/B	
153	3-344-222-01	WASHER	
154	X-3362-214-1	TABLE (F) ASSY, REEL	
155	3-344-143-01	SPRING (BT), COMPRESSION	
156	3-365-725-01	CAP (F), REEL	
157	3-364-151-01	WASHER	
* 158	X-3344-144-2	BRACKET (F) ASSY, REEL TABLE	
* 159	1-648-246-11	REEL BOARD	
* 160	X-3366-042-2	BASE ASSY (F), HEAD	
* 161	3-363-909-01	SPRING (R), PINCH PRESS	

Ref. No.	Part No.	Description	Remark
162	3-344-128-06	SEAM, DAH	
163	3-372-170-01	ARM, DAH	
164	3-364-122-01	SCREW (M1.4X5.5), ADJ	
165	3-344-130-04	RETAINER, HEAD	
* 166	3-344-220-01	COVER, MD	
* 167	3-382-483-01	LEVER (RVS JOINT)	
168	X-3344-115-1	ARM (R) ASSY, PINCH	
169	X-3344-116-1	ARM (F) ASSY, PINCH	
170	3-344-217-01	SPRING(CAM LOCK LEVER), TENTION	
171	3-701-437-01	POLY-SLIDER (A)	
HP901	1-500-043-11	HEAD, MAGNETIC (PLAYBACK)	

6-5. MECHANISM DECK SECTION 3 (MG-55PA-31)



Ref. No.	Part No.	Description	Remark
201	3-376-927-01	GEAR (PLAY)	
202	3-344-222-01	WASHER	
203	X-3344-102-1	GEAR ASSY, FR	
* 204	X-3344-101-6	ARM ASSY, FR	
205	3-364-151-01	WASHER	
* 206	X-3344-139-3	ARM ASSY, POWER	
207	3-344-279-01	SPRING, BUFFER	
208	3-701-436-01	WASHER, 1.6	
209	3-371-971-01	PULLEY (P), MIDWAY	
* 210	1-648-247-11	PLUNGER BOARD	
211	3-386-047-01	FLYWHEEL (D)	
212	3-387-987-01	BELT	
213	3-701-437-01	POLY-SLIDER (A)	

Ref. No.	Part No.	Description	Remark
214	3-344-224-01	WASHER	
* 215	X-3344-114-1	LEVER ASSY, RVS	
216	3-344-146-01	GEAR (B), RVS	
217	3-344-147-01	GEAR (A), RVS	
218	3-344-223-01	WASHER	
219	X-3344-107-1	LEVER ASSY, CAM LOCK	
220	3-344-218-02	SPRING (PLAY ARM), TENSION	
221	3-344-215-01	SPRING, TENSION	
222	3-344-119-01	GEAR, RVS CAM	
223	A-3239-947-A	GEAR SUB ASSY, FR	
* 224	X-3366-043-2	CHASSIS (L) ASSY, MECHANICAL	
M901	X-3344-136-3	MOTOR SUB ASSY, CAPSTAN	
PL401	1-454-461-11	SOLENOID, PLUNGER	

SECTION 7
ELECTRICAL PARTS LIST

EQUALIZER

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u:μ, for example:
  uA ..: μA.. uPA..: μPA..
  uPB..: μPB.. uPC..: μPC.. uPD..: μPD..
- CAPACITORS
  uF: μF
- COILS
  uH: μH

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
*	A-3295-489-A	EQUALIZER BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C301	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C302	1-104-527-91	FILM CHIP	100PF	5%	50V
C303	1-104-527-91	FILM CHIP	100PF	5%	50V
C304	1-104-551-11	FILM CHIP	0.01uF	5%	16V
C305	1-126-189-11	ELECT	0.22uF	20%	50V
C306-308					
	1-104-543-11	FILM CHIP	0.0022uF	5%	50V
C309	1-104-563-11	FILM CHIP	0.1uF	5%	16V
C310	1-104-563-11	FILM CHIP	0.1uF	5%	16V
C311	1-164-174-11	CERAMIC CHIP	0.0082uF	10%	25V
C312	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C313	1-126-187-11	ELECT	0.1uF	20%	50V
C314	1-128-393-11	ELECT	100uF	20%	10V
C315	1-126-193-11	ELECT	1uF	20%	50V
C316	1-165-128-11	CERAMIC CHIP	0.22uF		16V
C401	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C402	1-104-527-91	FILM CHIP	100PF	5%	50V
C403	1-104-527-91	FILM CHIP	100PF	5%	50V
C404	1-104-551-11	FILM CHIP	0.01uF	5%	16V
C405	1-126-189-11	ELECT	0.22uF	20%	50V
C406-408					
	1-104-543-11	FILM CHIP	0.0022uF	5%	50V
C409	1-104-563-11	FILM CHIP	0.1uF	5%	16V
C410	1-104-563-11	FILM CHIP	0.1uF	5%	16V
C415	1-164-361-11	CERAMIC CHIP	0.047uF		16V
		< CONNECTOR >			
CN301	1-569-806-21	CONNECTOR, FPC 5P			
CN302	1-565-770-11	CONNECTOR, FPC (1.0MM) (ZIF) 6P			
* CN303	1-691-741-21	PIN, CONNECTOR (PC BOARD) 2P			
CN401	1-750-217-21	CONNECTOR (WAFER) 18P			
		< DIODE >			
D301-303					
	8-719-404-35	DIODE MA141WK			

Ref. No.	Part No.	Description			Remark
		< IC >			
IC401	8-759-160-99	IC HA12174			
		< RESISTOR >			
R301	1-208-528-61	METAL GLAZE	56K	5%	1/10W
R302	1-208-528-61	METAL GLAZE	56K	5%	1/10W
R303	1-208-464-61	METAL GLAZE	12K	5%	1/10W
R304	1-208-468-61	METAL GLAZE	18K	5%	1/10W
R305	1-208-546-61	METAL GLAZE	330K	5%	1/10W
R306	1-218-724-11	METAL CHIP	22K	0.50%	1/16W
R307	1-218-313-11	METAL CHIP	560	0.50%	1/16W
R308	1-216-839-11	METAL CHIP	33K	5%	1/16W
R309	1-216-836-11	METAL CHIP	18K	5%	1/16W
R310	1-216-845-11	METAL CHIP	100K	5%	1/16W
R311	1-216-851-11	METAL CHIP	330K	5%	1/16W
R312	1-216-853-11	METAL CHIP	470K	5%	1/16W
R313	1-216-841-11	METAL CHIP	47K	5%	1/16W
R314	1-216-836-11	METAL CHIP	18K	5%	1/16W
R315	1-216-833-11	METAL CHIP	10K	5%	1/16W
R401	1-208-528-61	METAL GLAZE	56K	5%	1/10W
R402	1-208-528-61	METAL GLAZE	56K	5%	1/10W
R403	1-208-464-61	METAL GLAZE	12K	5%	1/10W
R404	1-208-468-61	METAL GLAZE	18K	5%	1/10W
R405	1-208-546-61	METAL GLAZE	330K	5%	1/10W
R406	1-218-724-11	METAL CHIP	22K	0.50%	1/16W
R407	1-218-313-11	METAL CHIP	560	0.50%	1/16W
		< VARIABLE RESISTOR >			
RV301	1-241-552-11	RES, ADJ CERMET 470			
RV401	1-241-552-11	RES, ADJ CERMET 470			
		< SWITCH >			
S301	1-570-953-11	SWITCH, PUSH (1 KEY) (DETECT)			
S302	1-570-953-11	SWITCH, PUSH (1 KEY) (FWD/REV)			

****

I/O KEY

Ref. No.	Part No.	Description			Remark
*	1-648-699-11	I/O BOARD			
		*********			
	1-533-179-21	HOLDER, FUSE			
*	3-904-673-01	PLATE (HEAT SINK), GROUND			
		< CAPACITOR >			
C901	1-104-889-91	ELECT	2200uF	20%	16V
C903	1-104-646-91	CERAMIC	2.2uF	20%	50V
C904	1-163-157-00	FILM	0.022uF	5%	50V
C905	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C915	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C925	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C931	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C941-946					
	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
		< CONNECTOR >			
* CN900	1-695-244-21	PLUG, CONNECTOR 15P			
CN901	1-695-201-21	PLUG, CONNECTOR 15P			
* CN902	1-580-914-11	PLUG, CONNECTOR 12P			
		< DIODE >			
D901	8-719-041-36	DIODE	NSD03A40-TE16L		
D931	8-719-034-46	DIODE	MA4062-M (QZ)		
		< FUSE >			
F900	1-532-796-11	FUSE (BLADE TYPE) (AUTO FUSE) (5A)			
		< JACK >			
J905	1-691-683-11	JACK, PIN 4P (LINE OUT FRONT, SUB OUT)			
J906	1-691-683-11	JACK, PIN 4P (UNLINK IN AUDIO, LINE OUT REAR)			
		< COIL >			
L901	1-406-723-11	COIL, CHOKE (TROIDAL)			
		< RESISTOR >			
R915	1-208-498-41	METAL GLAZE	3.3K	2%	1/8W
R916	1-208-504-41	METAL GLAZE	5.6K	2%	1/8W
R925	1-208-498-41	METAL GLAZE	3.3K	2%	1/8W
R926	1-208-504-41	METAL GLAZE	5.6K	2%	1/8W
R931	1-216-049-00	METAL CHIP	1K	5%	1/10W
R941	1-208-510-41	METAL GLAZE	10K	2%	1/8W
R942	1-208-494-41	METAL GLAZE	2.2K	2%	1/8W

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Ref. No.	Part No.	Description			Remark
*	A-3222-613-A	KEY BOARD, COMPLETE			
		**********			
*	3-389-672-01	HOLDER (M:LCD)			
*	3-389-673-01	PLATE (M:LCD), LIGHT GUIDE			
*	3-389-676-01	HOLDER (SA:LCD)			
*	3-389-749-01	PLATE (SA:LCD), LIGHT GUIDE			
*	3-389-753-01	REFLECTOR (M), SHEET			
*	3-389-754-01	REFLECTOR (SA), SHEET			
*	3-905-675-01	REFLECTOR (MIRROR)			
		< CAPACITOR >			
C701	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C702	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C703	1-164-232-11	CERAMIC CHIP	0.01uF		50V
		< CONNECTOR >			
* CNP701	1-691-557-21	PIN, CONNECTOR 12P			
		< DIODE >			
D701	8-719-987-45	LED	CL-155Y/PG-CD (TAPE ◁▯▷)		
D702	8-719-987-45	LED	CL-155Y/PG-CD (⏏)		
D703	8-719-987-45	LED	CL-155Y/PG-CD (CD)		
D704	8-719-987-45	LED	CL-155Y/PG-CD (AF/TA)		
D705	8-719-987-45	LED	CL-155Y/PG-CD (TUNER)		
D706	8-719-987-45	LED	CL-155Y/PG-CD (DSP)		
D707	8-719-987-45	LED	CL-155Y/PG-CD (FILE)		
D708	8-719-987-45	LED	CL-155Y/PG-CD (SENS)		
D709	8-719-987-45	LED	CL-155Y/PG-CD (10)		
D710	8-719-987-45	LED	CL-155Y/PG-CD (9)		
D711	8-719-987-45	LED	CL-155Y/PG-CD (MTL 8)		
D713	8-719-987-45	LED	CL-155Y/PG-CD (ATA 5)		
D714	8-719-987-45	LED	CL-155Y/PG-CD (BANK 4)		
D715	8-719-987-45	LED	CL-155Y/PG-CD (SHUF 3)		
D716	8-719-987-45	LED	CL-155Y/PG-CD (REPEAT 2)		
D717	8-719-987-45	LED	CL-155Y/PG-CD (MUTE)		
D718	8-719-987-45	LED	CL-155Y/PG-CD (+)		
D719	8-719-987-45	LED	CL-155Y/PG-CD (SEL)		
D720	8-719-987-45	LED	CL-155Y/PG-CD (▯▯ 7)		
D722	8-719-987-45	LED	CL-155Y/PG-CD (-)		
D723	8-719-987-45	LED	CL-155Y/PG-CD (BL.SKIP 6)		
D724	8-719-987-45	LED	CL-155Y/PG-CD (INTRO 1)		
D725	8-719-404-49	DIODE	MA111		
D726	8-719-422-43	DIODE	MA8051-H		
D727	8-719-422-43	DIODE	MA8051-H		
D728	8-719-404-49	DIODE	MA111		
D729	8-719-404-49	DIODE	MA111		

Ref. No.	Part No.	Description			Remark
		< IC >			
IC701	8-759-246-16	IC TC9240F			
IC702	8-759-515-60	IC RS-20			
		< LIQUID CRYSTAL DISPLAY >			
LCD701	1-810-094-11	DISPLAY PANEL, LIQUID CRYSTAL (MAIN)			
LCD702	1-810-096-11	DISPLAY PANEL, LIQUID CRYSTAL (SUB)			
		< PILOT LAMP >			
PL701	1-517-181-11	LAMP, PILOT			
PL702	1-517-181-11	LAMP, PILOT			
PL703	1-517-181-21	LAMP, PILOT			
PL704	1-517-181-21	LAMP, PILOT			
PL705	1-517-181-11	LAMP, PILOT			
PL706	1-517-181-21	LAMP, PILOT			
		< TRANSISTOR >			
Q701-704					
	8-729-904-66	TRANSISTOR	DTD113EK		
		< RESISTOR >			
R701	1-216-049-00	METAL CHIP	1K	5%	1/10W
R703	1-216-039-00	METAL CHIP	390	5%	1/10W
R704	1-216-033-00	METAL CHIP	220	5%	1/10W
R705	1-216-033-00	METAL CHIP	220	5%	1/10W
R706	1-216-035-00	METAL CHIP	270	5%	1/10W
R707	1-216-033-00	METAL CHIP	220	5%	1/10W
R708	1-216-023-00	METAL CHIP	82	5%	1/10W
R709	1-216-023-00	METAL CHIP	82	5%	1/10W
R710	1-216-033-00	METAL CHIP	220	5%	1/10W
R714	1-216-041-00	METAL CHIP	470	5%	1/10W
R715	1-216-041-00	METAL CHIP	470	5%	1/10W
R716-718					
	1-216-049-00	METAL CHIP	1K	5%	1/10W
R719	1-216-097-00	METAL CHIP	100K	5%	1/10W
R720	1-216-089-00	METAL CHIP	47K	5%	1/10W
R721-723					
	1-216-049-00	METAL CHIP	1K	5%	1/10W
R724	1-216-025-00	METAL CHIP	100	5%	1/10W
R730	1-216-039-00	METAL CHIP	390	5%	1/10W
R731	1-216-035-00	METAL CHIP	270	5%	1/10W
R732	1-216-035-00	METAL CHIP	270	5%	1/10W
R733	1-216-027-00	METAL CHIP	120	5%	1/10W
R734	1-216-027-00	METAL CHIP	120	5%	1/10W
R735	1-216-035-00	METAL CHIP	270	5%	1/10W
R751	1-216-647-11	METAL CHIP	680	0.5%	1/10W
R752	1-216-820-11	METAL CHIP	820	5%	1/16W
R753	1-216-820-11	METAL CHIP	820	5%	1/16W
R754	1-216-651-11	METAL CHIP	1K	0.5%	1/10W
R755	1-216-651-11	METAL CHIP	1K	0.5%	1/10W
R756	1-216-655-11	METAL CHIP	1.5K	0.5%	1/10W
R757	1-216-655-11	METAL CHIP	1.5K	0.5%	1/10W
R758	1-216-660-11	METAL CHIP	2.4K	0.5%	1/10W
R759	1-216-661-11	METAL CHIP	2.7K	0.5%	1/10W
R760	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W
R761	1-216-669-11	METAL CHIP	5.6K	0.5%	1/10W
R762	1-216-673-11	METAL CHIP	8.2K	0.5%	1/10W
R763	1-216-679-11	METAL CHIP	15K	0.5%	1/10W
R771	1-216-647-11	METAL CHIP	680	0.5%	1/10W
R772	1-216-820-11	METAL CHIP	820	5%	1/16W
R773	1-216-820-11	METAL CHIP	820	5%	1/16W
R774	1-216-821-11	METAL CHIP	1K	5%	1/16W
R775	1-216-821-11	METAL CHIP	1K	5%	1/16W
R776	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R777	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R778	1-216-660-11	METAL CHIP	2.4K	0.5%	1/10W
R779	1-216-661-11	METAL CHIP	2.7K	0.5%	1/10W
R780	1-216-665-11	METAL CHIP	3.9K	0.5%	1/10W
R781	1-216-669-11	METAL CHIP	5.6K	0.5%	1/10W
		< SWITCH >			
S701	1-692-037-31	SWITCH, KEY BOARD (⏏)			
S702	1-692-037-31	SWITCH, KEY BOARD (TAPE ◁◫▷)			
S703	1-692-037-31	SWITCH, KEY BOARD (DSP)			
S704	1-692-037-31	SWITCH, KEY BOARD (DSPL)			
S705	1-692-037-31	SWITCH, KEY BOARD (10)			
S706	1-692-037-31	SWITCH, KEY BOARD (ATA 5)			
S707	1-692-037-31	SWITCH, KEY BOARD (9)			
S708	1-692-037-31	SWITCH, KEY BOARD (BANK 4)			
S709	1-692-037-31	SWITCH, KEY BOARD (SHUF 3)			
S710	1-692-037-31	SWITCH, KEY BOARD (MTL 8)			
S711	1-692-037-31	SWITCH, KEY BOARD (REPEAT 2)			
S712	1-692-037-31	SWITCH, KEY BOARD (◫◫7)			
S713	1-692-037-31	SWITCH, KEY BOARD (INTRO 1)			
S714	1-692-037-31	SWITCH, KEY BOARD (BL.SKIP 6)			
S715	1-692-037-31	SWITCH, KEY BOARD (OFF)			
S716	1-692-037-31	SWITCH, KEY BOARD (TUNER)			
S717	1-692-037-31	SWITCH, KEY BOARD (AF/TA)			
S718	1-692-037-31	SWITCH, KEY BOARD (CD)			
S719	1-692-037-31	SWITCH, KEY BOARD (SENS)			
S720	1-692-037-31	SWITCH, KEY BOARD (FILE)			
S723	1-692-037-31	SWITCH, KEY BOARD (+)			
S724	1-692-037-31	SWITCH, KEY BOARD (SEL)			
S725	1-692-037-31	SWITCH, KEY BOARD (-)			
S726	1-692-037-31	SWITCH, KEY BOARD (MUTE)			

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MAIN

Ref. No.	Part No.	Description			Remark
*	A-3295-649-A	MAIN BOARD, COMPLETE (AEP)			
*	A-3295-653-A	MAIN BOARD, COMPLETE (German)			
		**********			
		< BUZZER >			
BZ601	1-529-108-21	BUZZER, PIEZOELECTRIC			
		< CAPACITOR >			
C1	1-163-101-00	CERAMIC CHIP	22PF	5%	50V
C2	1-163-101-00	CERAMIC CHIP	22PF	5%	50V
C3	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C4	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C5	1-130-475-00	MYLAR	0.0022uF	5%	50V
C6	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C7	1-164-245-11	CERAMIC CHIP	0.015uF	10%	25V
C8	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C9	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C10	1-126-157-11	ELECT	10uF	20%	16V
C11	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C12	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C13	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C14	1-126-163-11	ELECT	4.7uF	20%	50V
C15	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V
C16	1-124-234-00	ELECT	22uF	20%	16V
C17	1-124-994-11	ELECT	100uF	20%	10V
C18	1-104-955-61	ELECT	100uF	20%	10V
C19	1-124-994-11	ELECT	100uF	20%	10V
C21	1-104-955-61	ELECT	100uF	20%	10V
C22	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C23-25					
	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C26	1-136-171-00	FILM	0.033uF	5%	50V
C27	1-130-475-00	MYLAR	0.0022uF	5%	50V
C28	1-126-154-11	ELECT	47uF	20%	6.3V
C29	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C30	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C31	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C32-35					
	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C36	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C37	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C38	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C40	1-126-154-11	ELECT	47uF	20%	6.3V
C41	1-104-675-21	MYLAR	0.001PF	5%	50V
C42	1-130-479-00	MYLAR	0.0047uF	5%	50V
C43	1-136-165-00	FILM	0.1uF	5%	50V
C44	1-136-169-00	FILM	0.22uF	5%	50V
C51	1-163-018-00	CERAMIC CHIP	0.0056uF	10%	50V

Ref. No.	Part No.	Description			Remark
C60	1-124-229-00	ELECT (German)	33uF	20%	10U
C61	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C79	1-163-156-00	FILM	0.018uF	5%	50V
C80	1-163-156-00	FILM	0.018uF	5%	50V
C81	1-104-943-61	ELECT	2.2uF	20%	50V
C82	1-104-943-61	ELECT	2.2uF	20%	50V
C85	1-137-189-11	FILM	0.18uF	5%	50V
C87	1-136-164-00	FILM	0.082uF	5%	50V
C100	1-163-275-11	CERAMIC CHIP	0.001uF	5%	50V
C101	1-104-942-61	ELECT	1uF	20%	50V
C102	1-104-942-61	ELECT	1uF	20%	50V
C104	1-104-942-61	ELECT	1uF	20%	50V
C106	1-104-943-61	ELECT	2.2uF	20%	50V
C107	1-104-943-61	ELECT	2.2uF	20%	50V
C108-110					
	1-163-275-11	CERAMIC CHIP	0.001uF	5%	50V
C111	1-136-164-00	FILM	0.082uF	5%	50V
C112	1-130-475-00	MYLAR	0.0022uF	5%	50V
C113	1-104-948-61	ELECT	10uF	20%	35V
C114	1-130-478-00	MYLAR	0.0039uF	5%	50V
C115	1-104-948-61	ELECT	10uF	20%	35V
C116	1-136-169-00	FILM	0.22uF	5%	50V
C117	1-104-947-61	ELECT	4.7uF	20%	35V
C119	1-104-947-61	ELECT	4.7uF	20%	35V
C120	1-104-947-61	ELECT	4.7uF	20%	35V
C122	1-128-241-11	ELECT	220uF	20%	10V
C127	1-104-551-11	FILM CHIP	0.01uF	5%	16V
C151	1-104-948-61	ELECT	10uF	20%	35V
C153	1-104-948-61	ELECT	10uF	20%	35V
C155	1-104-947-61	ELECT	4.7uF	20%	35V
C200	1-163-275-11	CERAMIC CHIP	0.001uF	5%	50V
C201	1-104-942-61	ELECT	1uF	20%	50V
C202	1-104-942-61	ELECT	1uF	20%	50V
C204	1-104-942-61	ELECT	1uF	20%	50V
C206	1-104-943-61	ELECT	2.2uF	20%	50V
C207	1-104-943-61	ELECT	2.2uF	20%	50V
C208-210					
	1-163-275-11	CERAMIC CHIP	0.001uF	5%	50V
C211	1-136-164-00	FILM	0.082uF	5%	50V
C212	1-130-475-00	MYLAR	0.0022uF	5%	50V
C213	1-104-948-61	ELECT	10uF	20%	35V
C214	1-130-478-00	MYLAR	0.0039uF	5%	50V
C215	1-104-948-61	ELECT	10uF	20%	35V
C216	1-136-169-00	FILM	0.22uF	5%	50V
C217	1-104-947-61	ELECT	4.7uF	20%	35V
C219	1-104-947-61	ELECT	4.7uF	20%	35V
C220	1-104-947-61	ELECT	4.7uF	20%	35V
C222	1-128-241-11	ELECT	220uF	20%	10V

Ref. No.	Part No.	Description			Remark
C227	1-104-551-11	FILM CHIP	0.01uF	5%	16V
C251	1-104-948-61	ELECT	10uF	20%	35V
C253	1-104-948-61	ELECT	10uF	20%	35V
C255	1-104-947-61	ELECT	4.7uF	20%	35V
C301	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C302	1-104-949-61	ELECT	22uF	20%	35V
C303	1-104-955-61	ELECT	100uF	20%	10V
C304	1-104-942-61	ELECT	1uF	20%	50V
C305	1-124-589-11	ELECT	47uF	20%	16V
C307	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C308	1-104-559-11	FILM CHIP	0.047uF	5%	16V
C401	1-124-242-00	ELECT	33uF	20%	25V
C402	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C403	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C404	1-126-103-11	ELECT	470uF	20%	16V
C501	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C502	1-126-153-11	ELECT	22uF	20%	6.3V
C503	1-126-153-11	ELECT	22uF	20%	6.3V
C504	1-163-229-11	CERAMIC CHIP	12PF	5%	50V
C505	1-163-229-11	CERAMIC CHIP	12PF	5%	50V
C506	1-126-157-11	ELECT	10uF	20%	16V
C507	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C510	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C511	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C512	1-104-942-61	ELECT	1uF	20%	50V
C513	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C514	1-126-163-11	ELECT	4.7uF	20%	50V
C515	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C516	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C519	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C550	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C560	1-163-237-11	CERAMIC CHIP	27PF	5%	50V
C561	1-163-237-11	CERAMIC CHIP	27PF	5%	50V
C562	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C563	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C564	1-163-127-00	CERAMIC CHIP	270PF	5%	50V
C569	1-126-157-11	ELECT	10uF	20%	16V
C574	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C577	1-163-038-00	CERAMIC CHIP	0.1uF		25V
C578	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C580	1-125-705-11	DOUBLE LAYERS	0.22F		5.5V
C581	1-162-995-11	CERAMIC CHIP	0.022uF		50V
C582	1-124-584-00	ELECT	100uF	20%	10V
C600	1-135-138-11	TANTAL. CHIP	10uF	20%	25V
C601	1-124-234-00	ELECT	22uF	20%	16V
C602	1-135-138-11	TANTAL. CHIP	10uF	20%	25V
C603	1-124-589-11	ELECT	47uF	20%	16V
C604	1-124-589-11	ELECT	47uF	20%	16V
C605	1-164-232-11	CERAMIC CHIP	0.01uF		50V

Ref. No.	Part No.	Description			Remark
C607	1-104-955-61	ELECT	100uF	20%	10V
C608	1-104-955-61	ELECT	100uF	20%	10V
C651	1-126-163-11	ELECT	4.7uF	20%	50V
		< CONNECTOR >			
* CN301	1-695-202-11	SOCKET, CONNECTOR 15P			
CN302	1-580-916-11	SOCKET, CONNECTOR 12P			
CN401	1-750-218-21	CONNECTOR (HOUSING) 18P			
CN402	1-691-591-11	PIN, CONNECTOR (1.5MM) (SMD) 8P			
CN551	1-580-907-11	PLUG, CONNECTOR (UNLINK IN CONTROL)			
CN571	1-750-621-11	PLUG, CONNECTOR (14P-L)			
		< DIODE >			
D1	8-719-971-18	DIODE	1SS318		
D2	8-719-971-18	DIODE	1SS318		
D3	8-719-034-63	DIODE	MA4091-H (QZ)		
D4	8-719-034-42	DIODE	MA4056-M (QZ)		
D6	8-719-041-79	DIODE	MA721WA-TX		
D7	8-719-041-79	DIODE	MA721WA-TX		
D101	8-719-034-22	DIODE	MA4039-M (QZ)		
D250	8-719-404-49	DIODE	MA111		
D302	8-719-404-49	DIODE	MA111		
D303	8-719-027-48	DIODE	MA142WA		
D304	8-719-404-49	DIODE	MA111		
D305	8-719-034-46	DIODE	MA4062-M (QZ)		
D306	8-719-034-46	DIODE	MA4062-M (QZ)		
D401	8-719-400-18	DIODE	MA152WK		
D402	8-719-034-63	DIODE	MA4091-H (QZ)		
D403-405	8-719-404-49	DIODE	MA111		
D501	8-719-027-48	DIODE	MA142WA		
D502	8-719-404-49	DIODE	MA111		
D551	8-719-034-49	DIODE	MA4068-L (QZ)		
D552	8-719-034-46	DIODE	MA4062-M (QZ)		
D553	8-719-034-46	DIODE	MA4062-M (QZ)		
D554	8-719-404-49	DIODE	MA111		
D555	8-719-404-49	DIODE	MA111		
D556	8-719-034-46	DIODE	MA4062-M (QZ)		
D571-578	8-719-034-46	DIODE	MA4062-M (QZ)		
D580	8-719-034-70	DIODE	MA4110-M (QZ)		
D582	8-719-027-48	DIODE	MA142WA		
D583	8-719-820-05	DIODE	1SS181		
D584	8-719-404-49	DIODE	MA111		
D601	8-719-034-42	DIODE	MA4056-M (QZ)		
D602	8-719-034-98	DIODE	MA4200-M (QZ)		
D651	8-719-027-50	DIODE	MA142WK		
D652	8-719-034-90	DIODE	MA4160-M (QZ)		
D653	8-719-034-54	DIODE	MA4075-M (QZ)		

MAIN

Ref. No.	Part No.	Description	Remark
		< FERRITE BEAD >	
FB503	1-414-135-11	INDUCTOR, FERRITE BEAD 600	
FB601-603			
	1-414-135-11	INDUCTOR, FERRITE BEAD 600	
		< IC >	
IC1	8-759-069-48	IC LA1061M	
IC2	8-759-823-81	IC LC7216M	
IC3	8-759-998-98	IC LM358D	
IC4	8-759-242-66	IC TC4W66F	
IC10	8-759-701-40	IC NJM3404AM-T1	
IC11	8-759-701-40	IC NJM3404AM-T1	
IC101	8-752-063-44	IC CXA1646Q	
IC102	8-759-165-34	IC TC9212F	
IC106	8-759-700-94	IC NJM5532M	
IC107-110			
	8-759-701-40	IC NJM3404AM-T1	
IC401	8-759-823-87	IC LB1638M	
IC501	8-759-189-20	IC uPD75518GF-131-3B9	
IC502	8-759-191-96	IC MN1882417SNU1	
IC504	8-759-168-53	IC LH5116N3	
IC505	8-759-035-87	IC SC7S00F	
IC506	8-759-163-63	IC TDA7330BD-013TR	
IC551	8-759-096-16	IC MM1175XF-T1	
IC571	8-759-167-83	IC PST600EMT-T1	
IC601	8-759-182-75	IC BA3910B-V2	
		< JACK >	
J1	1-750-617-11	JACK (ANTENNA)	
J301	1-566-822-11	JACK (REMOTE IN)	
		< JUMPER RESISTOR >	
JR10	1-216-864-11	METAL CHIP 0 5% 1/16W	
JR504	1-216-295-00	METAL CHIP 0 5% 1/10W	
		< COIL >	
L1	1-410-201-51	INDUCTOR CHIP 5.6uH	
L2	1-410-216-31	INDUCTOR CHIP 100uH	
L3	1-410-204-31	INDUCTOR CHIP 10uH	
L501	1-410-204-31	INDUCTOR CHIP 10uH	
L502	1-410-509-61	INDUCTOR 10uH	
L504	1-410-509-61	INDUCTOR 10uH	
L505	1-410-204-31	INDUCTOR CHIP 10uH	
		< TRANSISTOR >	
Q2	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q3	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q4	8-729-230-60	TRANSISTOR 2SA1586-YG	
Q5	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q6	8-729-021-94	TRANSISTOR 2SK1657-T1B	
Q8-10			
	8-729-021-95	TRANSISTOR RN1441-A-TE85L	
Q11	8-729-015-74	TRANSISTOR UN5111	
Q12	8-729-421-22	TRANSISTOR UN2211	
Q61	8-729-421-22	TRANSISTOR UN2211 (German)	
Q101	8-729-021-95	TRANSISTOR RN1441-A-TE85L	
Q102	8-729-021-95	TRANSISTOR RN1441-A-TE85L	
Q151	8-729-021-95	TRANSISTOR RN1441-A-TE85L	
Q201	8-729-021-95	TRANSISTOR RN1441-A-TE85L	
Q202	8-729-021-95	TRANSISTOR RN1441-A-TE85L	
Q251	8-729-021-95	TRANSISTOR RN1441-A-TE85L	
Q301	8-729-424-08	TRANSISTOR UN2111	
Q302	8-729-021-93	TRANSISTOR UPA502T-T1	
Q401	8-729-807-12	TRANSISTOR 2SD1802-S	
Q402	8-729-020-67	TRANSISTOR XN1A312-TX	
Q403	8-729-106-60	TRANSISTOR 2SB1115A	
Q404	8-729-421-22	TRANSISTOR UN2211	
Q405	8-729-421-22	TRANSISTOR UN2211	
Q502	8-729-020-67	TRANSISTOR XN1A312-TX	
Q551	8-729-403-35	TRANSISTOR UN5113	
Q552	8-729-231-74	TRANSISTOR 2SC4116-GL	
Q553	8-729-015-74	TRANSISTOR UN5111	
Q571	8-729-020-67	TRANSISTOR XN1A312-TX	
Q572-575			
	8-729-807-12	TRANSISTOR 2SD1802-S	
Q576	8-729-015-76	TRANSISTOR UN5211	
Q577	8-729-106-60	TRANSISTOR 2SB1115A	
Q578	8-729-920-56	TRANSISTOR FMG1	
Q579	8-729-020-67	TRANSISTOR XN1A312-TX	
Q601	8-729-807-12	TRANSISTOR 2SD1802-S	
Q602	8-729-421-22	TRANSISTOR UN2211	
Q650	8-729-421-22	TRANSISTOR UN2211	
Q651	8-729-231-74	TRANSISTOR 2SC4116-GL	
		< RESISTOR >	
R1	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R2	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R4	1-216-840-11	METAL CHIP 39K 5% 1/16W	
R5	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R6	1-216-857-11	METAL CHIP 1M 5% 1/16W	
R7	1-216-834-11	METAL CHIP 12K 5% 1/16W	
R8	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R9	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R10	1-216-842-11	METAL CHIP 56K 5% 1/16W	
R11	1-216-842-11	METAL CHIP 56K 5% 1/16W	
R12	1-218-293-11	METAL GLAZE 24K 5% 1/16W	
R13	1-216-845-11	METAL CHIP 100K 5% 1/16W	

Ref. No.	Part No.	Description			Remark
R14	1-216-845-11	METAL CHIP	100K	5%	1/16W
R15	1-216-821-11	METAL CHIP	1K	5%	1/16W
R16	1-216-845-11	METAL CHIP	100K	5%	1/16W
R19	1-216-081-00	METAL CHIP	22K	5%	1/10W
R20	1-216-049-00	METAL CHIP	1K	5%	1/10W
R21	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R22	1-216-049-00	METAL CHIP	1K	5%	1/10W
R23	1-216-075-00	METAL CHIP	12K	5%	1/10W
R24	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R25	1-216-833-11	METAL CHIP	10K	5%	1/16W
R27	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R30	1-216-113-00	METAL CHIP	470K	5%	1/10W
R31	1-216-073-00	METAL CHIP	10K	5%	1/10W
R32	1-216-073-00	METAL CHIP	10K	5%	1/10W
R33	1-216-049-00	METAL CHIP	1K	5%	1/10W
R34	1-216-119-00	METAL CHIP	820K	5%	1/10W
R35	1-216-815-11	METAL CHIP	330	5%	1/16W
R41	1-216-073-00	METAL CHIP	10K	5%	1/10W
R42	1-216-089-00	METAL CHIP	47K	5%	1/10W
R43	1-216-065-00	METAL CHIP	4.7K	5%	1/10W (AEP)
R43	1-216-073-00	METAL CHIP	10K	5%	1/10W (German)
R44	1-216-089-00	METAL CHIP	47K	5%	1/10W
R60	1-216-045-00	METAL CHIP	680	5%	1/10W
R61	1-216-049-00	METAL CHIP	1K	5%	1/10W
R81	1-208-504-41	METAL GLAZE	5.6K	2%	1/8W (AEP)
R81	1-208-496-41	METAL GLAZE	2.7K	2%	1/8W (German)
R82	1-208-504-41	METAL GLAZE	5.6K	2%	1/8W (AEP)
R82	1-208-496-41	METAL GLAZE	2.7K	2%	1/8W
R83	1-208-445-41	METAL GLAZE	2.2K	2%	1/10W
R85	1-208-449-41	METAL GLAZE	3.3K	2%	1/10W
R87	1-208-453-41	METAL GLAZE	4.7K	2%	1/10W
R88	1-208-453-41	METAL GLAZE	4.7K	2%	1/10W
R109	1-208-502-41	METAL GLAZE	4.7K	2%	1/8W
R110	1-208-502-41	METAL GLAZE	4.7K	2%	1/8W
R111	1-216-841-11	METAL CHIP	47K	5%	1/16W
R112	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R113	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R114	1-216-073-00	METAL CHIP	10K	5%	1/10W
R115	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R116	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R117	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R118	1-216-833-11	METAL CHIP	10K	5%	1/16W
R119	1-216-834-11	METAL CHIP	12K	5%	1/16W
R121	1-208-563-41	METAL GLAZE	33K	2%	1/8W
R122	1-208-563-41	METAL GLAZE	33K	2%	1/8W
R123	1-208-470-41	METAL GLAZE	220	2%	1/8W
R124	1-208-470-41	METAL GLAZE	220	2%	1/8W
R125	1-208-504-41	METAL GLAZE	5.6K	2%	1/8W
R126	1-208-498-41	METAL GLAZE	3.3K	2%	1/8W
R127	1-208-504-41	METAL GLAZE	5.6K	2%	1/8W
R128	1-208-498-41	METAL GLAZE	3.3K	2%	1/8W
R151	1-208-498-41	METAL GLAZE	3.3K	2%	1/8W
R152	1-208-504-41	METAL GLAZE	5.6K	2%	1/8W
R153	1-208-470-41	METAL GLAZE	220	2%	1/8W
R154	1-208-563-41	METAL GLAZE	33K	2%	1/8W
R209	1-208-502-41	METAL GLAZE	4.7K	2%	1/8W
R210	1-208-502-41	METAL GLAZE	4.7K	2%	1/8W
R211	1-216-841-11	METAL CHIP	47K	5%	1/16W
R212	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R213	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R214	1-216-073-00	METAL CHIP	10K	5%	1/10W
R215	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R216	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R217	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R218	1-216-833-11	METAL CHIP	10K	5%	1/16W
R219	1-216-834-11	METAL CHIP	12K	5%	1/16W
R221	1-208-563-41	METAL GLAZE	33K	2%	1/8W
R222	1-208-563-41	METAL GLAZE	33K	2%	1/8W
R223	1-208-470-41	METAL GLAZE	220	2%	1/8W
R224	1-208-470-41	METAL GLAZE	220	2%	1/8W
R225	1-208-504-41	METAL GLAZE	5.6K	2%	1/8W
R226	1-208-498-41	METAL GLAZE	3.3K	2%	1/8W
R227	1-208-504-41	METAL GLAZE	5.6K	2%	1/8W
R228	1-208-498-41	METAL GLAZE	3.3K	2%	1/8W
R251	1-208-498-41	METAL GLAZE	3.3K	2%	1/8W
R252	1-208-504-41	METAL GLAZE	5.6K	2%	1/8W
R253	1-208-470-41	METAL GLAZE	220	2%	1/8W
R254	1-208-563-41	METAL GLAZE	33K	2%	1/8W
R301	1-216-085-00	METAL CHIP	33K	5%	1/10W
R302	1-216-017-00	METAL CHIP	47	5%	1/10W
R305	1-216-214-00	METAL GLAZE	4.7K	5%	1/8W
R306	1-216-214-00	METAL GLAZE	4.7K	5%	1/8W
R401	1-216-049-00	METAL CHIP	1K	5%	1/10W
R402	1-220-149-11	METAL GLAZE	2.2	10%	1/2W
R403	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R404	1-216-073-00	METAL CHIP	10K	5%	1/10W
R405	1-216-186-00	METAL GLAZE	330	5%	1/8W
R406	1-216-186-00	METAL GLAZE	330	5%	1/8W
R502	1-216-845-11	METAL CHIP	100K	5%	1/16W
R507	1-216-837-11	METAL CHIP	22K	5%	1/16W
R510	1-216-049-00	METAL CHIP	1K	5%	1/10W
R520	1-218-716-11	METAL CHIP	10K	0.50%	1/16W
R522	1-218-716-11	METAL CHIP	10K	0.50%	1/16W
R523	1-216-097-00	METAL CHIP	100K	5%	1/10W
R524	1-216-097-00	METAL CHIP	100K	5%	1/10W
R525	1-216-845-11	METAL CHIP	100K	5%	1/16W
R527	1-216-089-00	METAL CHIP	47K	5%	1/10W
R528	1-216-089-00	METAL CHIP	47K	5%	1/10W (German)

MAIN **PLUNGER** **REEL**

Ref. No.	Part No.	Description			Remark
R530	1-216-089-00	METAL CHIP	47K	5%	1/10W (AEP)
R531-539					
	1-216-097-00	METAL CHIP	100K	5%	1/10W
R540	1-216-049-00	METAL CHIP	1K	5%	1/10W
R541	1-216-097-00	METAL CHIP	100K	5%	1/10W
R542	1-216-097-00	METAL CHIP	100K	5%	1/10W
R543	1-216-864-11	METAL CHIP	0	5%	1/16W
R544	1-216-097-00	METAL CHIP	100K	5%	1/10W
R547	1-216-845-11	METAL CHIP	100K	5%	1/16W
R548	1-216-837-11	METAL CHIP	22K	5%	1/16W
R549	1-216-837-11	METAL CHIP	22K	5%	1/16W
R550	1-216-081-00	METAL CHIP	22K	5%	1/10W
R551	1-216-025-00	METAL CHIP	100	5%	1/10W
R552	1-216-025-00	METAL CHIP	100	5%	1/10W
R553	1-216-073-00	METAL CHIP	10K	5%	1/10W
R554	1-216-089-00	METAL CHIP	47K	5%	1/10W
R555	1-216-841-11	METAL CHIP	47K	5%	1/16W
R556	1-216-845-11	METAL CHIP	100K	5%	1/16W
R565	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R566	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R571	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R573	1-216-025-00	METAL CHIP	100	5%	1/10W
R575	1-216-809-11	METAL CHIP	100	5%	1/16W
R576	1-216-809-11	METAL CHIP	100	5%	1/16W
R577	1-216-017-00	METAL CHIP	47	5%	1/10W
R579	1-216-200-00	METAL GLAZE	1.2K	5%	1/8W
R580-583					
	1-216-298-00	METAL CHIP	2.2	5%	1/10W
R584	1-216-833-11	METAL CHIP	10K	5%	1/16W
R586	1-216-206-00	METAL GLAZE	2.2K	5%	1/8W
R587	1-218-716-11	METAL CHIP	10K	0.50%	1/16W
R588	1-218-716-11	METAL CHIP	10K	0.50%	1/16W
R589	1-216-837-11	METAL CHIP	22K	5%	1/16W
R590	1-216-845-11	METAL CHIP	100K	5%	1/16W
R592	1-216-845-11	METAL CHIP	100K	5%	1/16W
R601	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R602	1-216-049-00	METAL CHIP	1K	5%	1/10W
R603	1-216-037-00	METAL CHIP	330	5%	1/10W
R650	1-216-206-00	METAL GLAZE	2.2K	5%	1/8W
R653	1-216-841-11	METAL CHIP	47K	5%	1/16W
R654	1-216-841-11	METAL CHIP	47K	5%	1/16W
R655	1-216-838-11	METAL CHIP	27K	5%	1/16W
R656	1-216-845-11	METAL CHIP	100K	5%	1/16W
		< NETWORK RESISTOR >			
RB171	1-239-426-91	RESISTOR, NETWORK (CHIP TYPE)			(2.2KX4)
RB504	1-239-426-91	RESISTOR, NETWORK (CHIP TYPE)			(2.2KX4)
RB508	1-236-907-11	RESISTOR, NETWORK (CHIP TYPE)			(100KX4)
RB512	1-236-907-11	RESISTOR, NETWORK (CHIP TYPE)			(100KX4)
RB516	1-236-907-11	RESISTOR, NETWORK (CHIP TYPE)			(100KX4)
RB571	1-239-426-91	RESISTOR, NETWORK (CHIP TYPE)			(2.2KX4)
		< VARIABLE RESISTOR >			
RV10	1-238-605-31	RES, ADJ, CARBON 470K			
		< SWITCH >			
S1	1-572-272-11	SWITCH, SLIDE (DIVERSITY)			
S501	1-572-272-11	SWITCH, SLIDE (POWER SELECT)			
S510	1-572-288-11	SWITCH, PUSH (NOSE)			
		< VIBRATOR >			
X1	1-567-848-11	VIBRATOR, CRYSTAL (7.2MHz)			
X502	1-567-821-11	VIBRATOR, CRYSTAL (4.19MHz)			
X503	1-579-242-11	VIBRATOR, CRYSTAL (4.332MHz)			
X504	1-579-952-21	VIBRATOR, CERAMIC (8MHz)			
		< TUNER >			
* TU1	A-3282-003-A	TUNER UNIT (TUX-001A)			
**********					
*	1-648-247-11	PLUNGER BOARD			
		**********			
		< PLUNGER >			
PL401	1-454-461-11	SOLENOID, PLUNGER			
**********					
*	1-648-246-11	REEL BOARD			
		**********			
		< CONNECTOR >			
CN201	1-691-742-11	PIN, CONNECTOR (PC BOARD) 4P			
		< PHOTO INTERRUPTER >			
PH201	8-719-988-14	PHOTO INTERRUPTER PR-11-B			
PH202	8-719-988-14	PHOTO INTERRUPTER PR-11-B			
		< TRANSISTOR >			
Q201	8-729-403-07	TRANSISTOR XN1213			
		< RESISTOR >			
R201	1-216-845-11	METAL CHIP	100K	5%	1/16W
R202	1-216-845-11	METAL CHIP	100K	5%	1/16W
R203	1-216-190-00	METAL GLAZE	470	5%	1/8W
**********					

RESET

Ref. No.	Part No.	Description	Remark
*	1-648-611-11	RESET BOARD	
		**********	
		< CONNECTOR >	
CN572	1-750-622-11	SOCKET, CONNECTOR 14P	
CN573	1-691-558-11	SOCKET, CONNECTOR 12P	
		< DIODE >	
D570	8-719-422-64	DIODE MA8062-M	
		< RESISTOR >	
R570	1-216-049-00	METAL CHIP 1K 5% 1/10W	
		< SWITCH >	
S571	1-570-909-11	SWITCH, TACTIL (REFLOW TYPE) (RESET)	
**********			
		MISCELLANEOUS	
		**********	
14	1-751-264-21	CORD (WITH CONNECTOR)	
111	1-635-519-12	ROTARY SWITCH FLEXIBLE BOARD	
126	1-565-121-11	HOUSING, CONNECTOR 2P	
* 127	1-565-163-11	TERMINAL, SOLDERLESS	
F900	1-532-796-11	FUSE (BLADE TYPE) (AUTO FUSE) (5A)	
F901	1-533-326-11	FUSE (BLADE TYPE) (AUTO FUSE) (3A)	
HP901	1-500-043-11	HEAD, MAGNETIC (PLAYBACK)	
M901	X-3344-136-3	MOTOR SUB ASSY, CAPSTAN	
M902	X-3362-826-1	MOTOR ASSY	
S902	1-572-397-11	SWITCH, ROTARY SLIDE (TAPE OPERATION)	
**********			

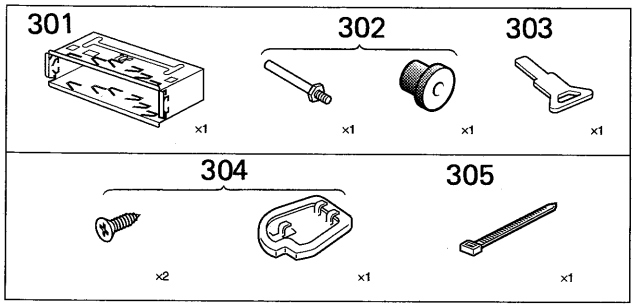
Ref. No.	Part No.	Description	Remark
		ACCESSORIES & PACKING MATERIALS	
		**********	
	X-3366-865-1	CASE ASSY	
	1-467-165-21	REMOTE COMMANDER (RM-X33)	
	3-756-918-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, GERMAN, ITALIAN)	
	3-756-918-41	MANUAL, INSTRUCTION (DUTCH, SWEDISH, SPANISH, PORTUGUESE)	
	3-756-921-11	MANUAL, INSTRUCTION, INSTALL (ENGLISH, FRENCH, GERMAN, ITALIAN)	
	3-756-921-41	MANUAL, INSTRUCTION, INSTALL (AEP) (DUTCH, SWEDISH, SPANISH, PORTUGUESE)	
	3-757-435-11	MANUAL, INSTRUCTION, INSTALL (ENGLISH, FRENCH, GERMAN, ITALIAN, DUTCH, SWEDISH, SPANISH, PORTUGUESE)	
*	3-904-877-01	CUSHION (UPPER)	
*	3-904-878-01	CUSHION (LOWER)	
*	3-905-636-01	INDIVIDUAL CARTON (AEP)	
*	3-905-637-01	INDIVIDUAL CARTON (German)	
	7-621-853-30	SCREW +KTP 3X12 TYPE4	

****

****
HARDWARE LIST
****

#1	7-621-255-65	SCREW +P 2X10
#2	7-685-134-19	SCREW +P 2.6X8 TYPE2 NON-SLIT
#3	7-621-775-68	SCREW +PTT 2.6X12 (S)
#4	7-624-102-04	STOP RING 1.5, TYPE-E
#5	7-628-253-05	SCREW +PS 2X4
#6	7-621-770-XX	SCREW +PTT 2.6X8 (S)
#7	7-627-850-67	SCREW, PRECISION +P 1.4X4
#8	7-627-850-18	SCREW, PRECISION +P 1.4X2.5
#9	7-624-104-04	STOP RING 2.0, TYPE-E
#10	7-627-554-07	SCREW, PRECISION +P 2X2.2
#11	7-621-772-10	SCREW +B 2X4
#12	7-621-775-40	SCREW +PTT 2.6X8 (S)
#13	7-685-105-19	SCREW +P 2X8 TYPE2 NON-SLIT

MOUNTING HARDWARE



Ref. No.	Part No.	Description	Remark
* 301	X-3366-235-3	FRAME ASSY, FITTING	
302	X-3366-405-1	SCREW ASSY (EXP), FITTING	
303	3-388-078-01	KEY	
304	X-3366-925-1	BRACKET ASSY	
305	3-655-653-21	BAND (TAITON), BINDING	

9-957-987-11

Sony Corporation
Mobile Electronics Group

English
93G04Y0944-1
Printed in Germany
© 1993. 7

Published by Audio Sector Quality Assurance Dept.

XR-U800RDS

SONY®
SERVICE MANUAL

AEP Model

SUPPLEMENT-1

File this supplement with the service manual.

Subject: 1. TUNER MICROCOMPUTER CHANGE
2. PC BOARDS CHANGE

(ECN-CS402702)

1. TUNER MICROCOMPUTER CHANGE

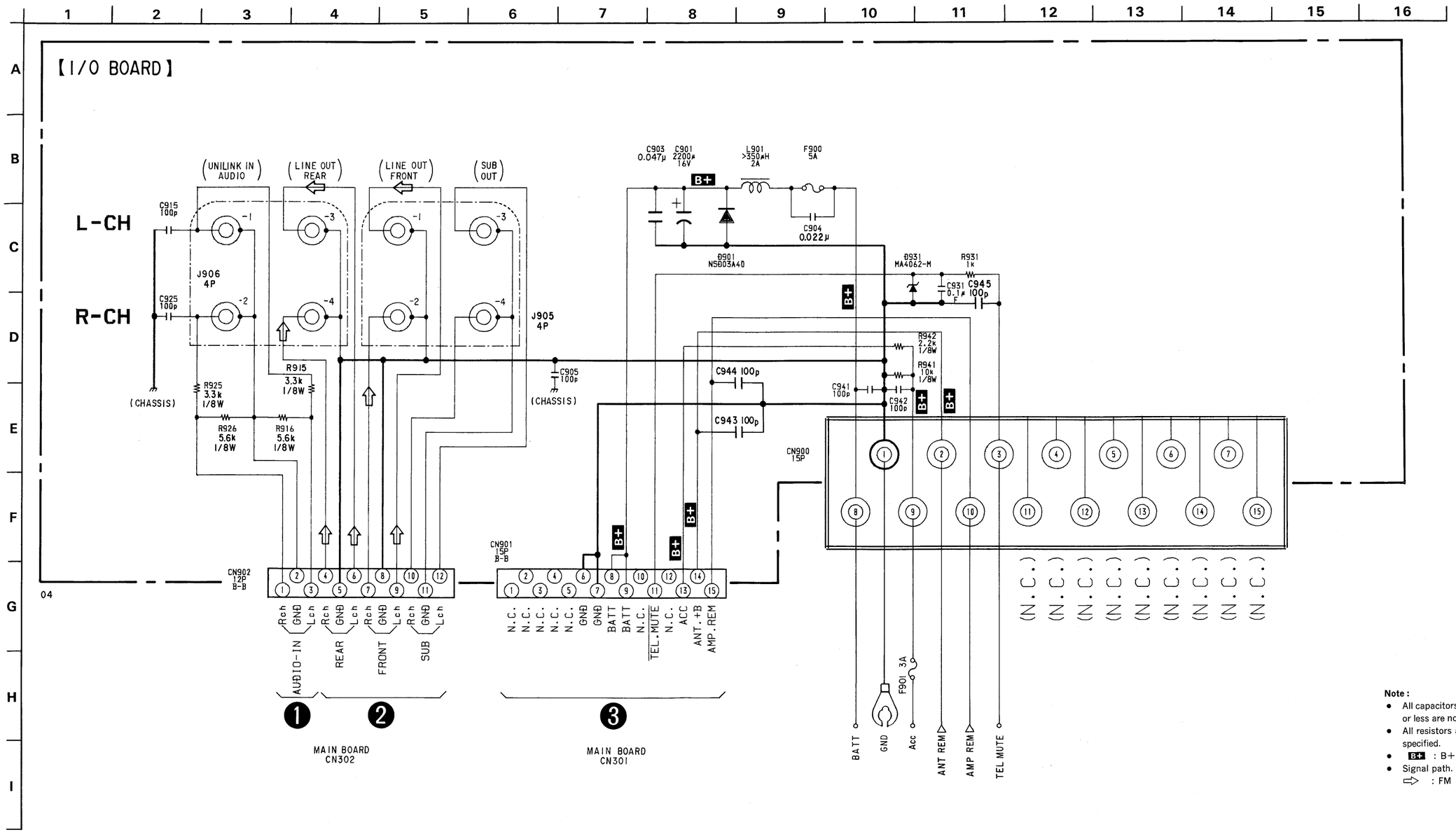
The tuner microcomputer (IC502) has four types.
When servicing/inspecting, check the type of the tuner microcomputer and word according to the following table.

- Types of the Tuner Microcomputer
  TYPE 1 : MN1882417SNU1
  TYPE 2 : MN1882417SNU2
  TYPE 3 : MN1883220SZE
  TYPE 4 : MN1883220SZF

	TYPE 1	TYPE 2	TYPE 3	TYPE 4
R515, 516, 559 RB520—525	MOUNT	NO MOUNT	NO MOUNT	NO MOUNT
C512, 513 FB503 IC504, 505 L502 R532—539	MOUNT	MOUNT	NO MOUNT	NO MOUNT
R544	100kΩ	100kΩ	0Ω	0Ω
C60 (German) Q61 (German)	MOUNT	MOUNT	MOUNT	NO MOUNT

2. PC BOARDS CHANGE

2-1. SCHEMATIC DIAGRAM—I/O SECTION—



Note :

- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- B+ : B+ Line
- Signal path.
  ⇨ : FM

• Semiconductor Location

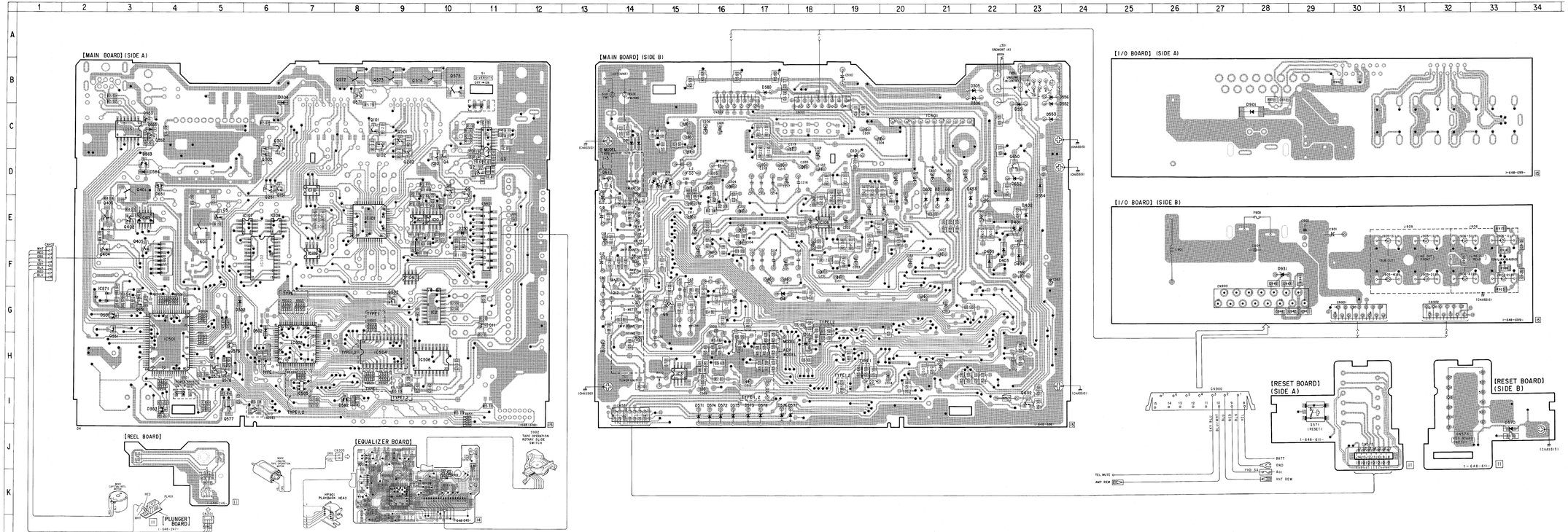
Ref. No.	Location	Ref. No.	Location
D1	C-14	IC108	E-6
D2	C-14	IC109	F-7
D3	D-21	IC110	D-7
D4	G-17	IC401	E-3
D6	D-14	(IC401)	K-9
D7	D-15	IC501	H-4
D101	D-19	IC502	H-7
D250	E-10	IC504	H-8
(D301)	K-10	IC505	I-7
D302	G-5	IC506	H-9
(D302)	K-10	IC551	C-3
D303	I-4	IC571	G-2
(D303)	J-11	IC601	C-21
D304	B-6		
D305	B-22	(PH201)	J-3
D306	B-22	(PH202)	J-5
D401	E-22		
D402	E-23	Q2	D-11
D403	F-22	Q3	D-11
D404	F-22	Q4	D-10
D405	F-22	Q5	E-5
D501	G-3	Q6	G-15
D502	G-6	Q8	D-10
D551	B-22	Q9	D-11
D552	B-23	Q10	D-10
D553	C-23	Q11	G-11
D554	D-24	Q12	F-14
D555	C-3	Q61	D-13
D556	B-23	Q101	C-8
D570	J-33	Q102	C-8
D571	I-15	Q151	D-6
D572	I-16	Q201	C-9
D573	I-17	(Q201)	K-5
D574	I-16	Q202	D-9
D575	I-16	Q251	D-6
D576	I-17	Q301	C-6
D577	I-18	Q302	D-6
D578	I-17	Q401	D-3
D580	B-17	Q402	E-3
D582	I-8	Q403	E-3
D583	D-3	Q404	F-2
D584	D-3	Q405	F-3
D601	D-21	Q502	G-9
D602	D-20	Q551	G-3
D651	D-4	Q552	C-3
D652	D-22	Q553	C-3
D653	D-21	Q571	B-8
D901	C-27	Q572	B-8
D931	F-28	Q573	B-9
		Q574	B-9
IC1	C-11	Q575	B-10
IC2	G-10	Q576	H-5
IC3	H-15	Q577	I-5
IC4	F-9	Q578	H-5
IC10	E-10	Q579	H-5
IC11	E-9	Q601	E-5
IC101	E-8	Q602	I-23
IC102	F-6	Q650	D-22
IC106	E-18	Q651	G-3
IC107	E-6		

( ): MECHANISM BLOCK

Note:

- ◇— : parts extracted from the component side.
- ● : Through hole.
- ▬ : Pattern on the side which is seen.
- ▬ : Pattern on the rear side.
- TYPE1, 2, 3 and 4 are the types of the tuner microcomputer (IC502).
- Abbreviation
  G : German model

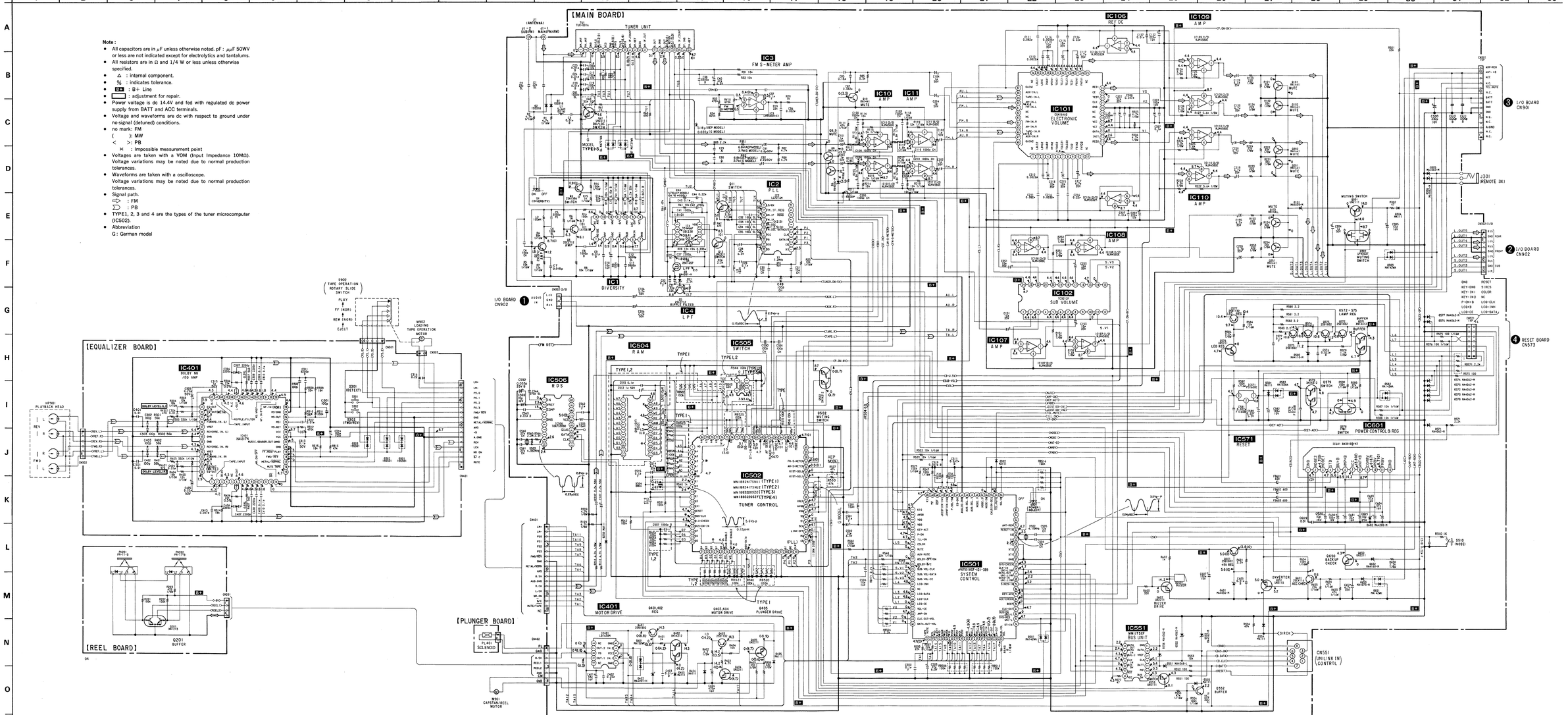
2-2. PRINTED WIRING BOARDS—MAIN SECTION—



2-3. SCHEMATIC DIAGRAM—MAIN SECTION—

Note :

- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- % : indicates tolerance.
- B+ : B+ Line
- ▭ : adjustment for repair.
- Power voltage is dc 14.4V and fed with regulated dc power supply from BATT and ACC terminals.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- no mark: FM
  ( ): MW
  < >: PB
  ✕ : Impossible measurement point
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM
  ⇨ : PB
- TYPE1, 2, 3 and 4 are the types of the tuner microcomputer (IC502).
- Abbreviation
  G : German model



EQUALIZER

2-4. ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u:μ, for example:
  uA..: μA.. uPA..: μPA..
  uPB..: μPB.. uPC..: μPC.. uPD..: μPD..
- CAPACITORS
  uF: μF
- COILS
  uH: μH

When indicating parts by reference number, please include the board.

- TYPE 1, 2, 3 and 4 are the types of the tuner microcomputer (IC502).
- Abbreviation
  G : German model

Ref. No.	Part No.	Description			Remark
*	A-3295-489-A	EQUALIZER BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C301	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C302	1-104-527-91	FILM CHIP	100PF	5%	50V
C303	1-104-527-91	FILM CHIP	100PF	5%	50V
C304	1-104-551-11	FILM CHIP	0.01uF	5%	16V
C305	1-128-009-11	ELECT CHIP	0.22uF	20%	50V
C306-308					
	1-104-543-11	FILM CHIP	0.0022uF	5%	50V
C309	1-104-563-11	FILM CHIP	0.1uF	5%	16V
C310	1-104-563-11	FILM CHIP	0.1uF	5%	16V
C311	1-164-174-11	CERAMIC CHIP	0.0082uF	10%	25V
C312	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C313	1-126-187-11	ELECT	0.1uF	20%	50V
C314	1-128-393-11	ELECT CHIP	100uF	20%	10V
C315	1-126-193-11	ELECT	1uF	20%	50V
C316	1-165-128-11	CERAMIC CHIP	0.22uF		16V
C401	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C402	1-104-527-91	FILM CHIP	100PF	5%	50V
C403	1-104-527-91	FILM CHIP	100PF	5%	50V
C404	1-104-551-11	FILM CHIP	0.01uF	5%	16V
C405	1-128-009-11	ELECT CHIP	0.22uF	20%	50V
C406-408					
	1-104-543-11	FILM CHIP	0.0022uF	5%	50V
C409	1-104-563-11	FILM CHIP	0.1uF	5%	16V
C410	1-104-563-11	FILM CHIP	0.1uF	5%	16V
C415	1-164-361-11	CERAMIC CHIP	0.047uF		16V
C501	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C502	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
		< CONNECTOR >			
CN301	1-569-806-21	CONNECTOR, FPC5P			
CN302	1-565-770-11	CONNECTOR, FPC (1.0MM) (ZIF)6P			
* CN303	1-691-741-21	PIN, CONNECTOR (PC BOARD) 2P			
* CN401	1-750-217-21	CONNECTOR (WAFER) 18P			

Ref. No.	Part No.	Description			Remark
		< DIODE >			
D301	8-719-404-35	DIODE MA141WK			
D302	8-719-404-35	DIODE MA141WK			
D303	8-719-404-35	DIODE MA141WK			
		< IC >			
IC401	8-759-160-99	IC HA12174			
		< RESISTOR >			
R301	1-208-824-11	METAL GLAZE	56K	2%	1/10W
R302	1-208-824-11	METAL GLAZE	56K	2%	1/10W
R303	1-216-677-11	METAL CHIP	12K	0.5%	1/10W
R304	1-208-812-11	METAL GLAZE	18K	2%	1/10W
R305	1-218-764-11	METAL GLAZE	330K	2%	1/10W
R306	1-218-724-11	METAL CHIP	22K	0.50%	1/16W
R307	1-218-841-11	METAL CHIP	560	0.50%	1/16W
R308	1-216-839-11	METAL CHIP	33K	5%	1/16W
R309	1-216-836-11	METAL CHIP	18K	5%	1/16W
R310	1-216-842-11	METAL CHIP	56K	5%	1/16W
R311	1-216-851-11	METAL CHIP	330K	5%	1/16W
R312	1-216-853-11	METAL CHIP	470K	5%	1/16W
R313	1-216-841-11	METAL CHIP	47K	5%	1/16W
R314	1-218-722-11	METAL CHIP	18K	0.50%	1/16W
R315	1-216-833-11	METAL CHIP	10K	5%	1/16W
R401	1-208-824-11	METAL GLAZE	56K	2%	1/10W
R402	1-208-824-11	METAL GLAZE	56K	2%	1/10W
R403	1-216-677-11	METAL CHIP	12K	0.5%	1/10W
R404	1-208-812-11	METAL GLAZE	18K	2%	1/10W
R405	1-218-764-11	METAL GLAZE	330K	2%	1/10W
R406	1-218-724-11	METAL CHIP	22K	0.50%	1/16W
R407	1-218-841-11	METAL CHIP	560	0.50%	1/16W
		< VARIABLE RESISTOR >			
RV301	1-241-552-11	RES, ADJ CERMET 470			
RV401	1-241-552-11	RES, ADJ CERMET 470			

Ref.No.	Part No.	Description			Remark
		< SWITCH >			
S301	1-570-953-11	SWITCH, PUSH (1 KEY) (DETECT)			
S302	1-570-953-11	SWITCH, PUSH (1 KEY) (FWD/REV)			
**********					
*	1-648-699-11	I/O BOARD			
		*********			
	1-533-179-21	HOLDER, FUSE			
*	3-904-673-01	PLATE (HEAT SINK), GROUND			
		< CAPACITOR >			
C901	1-126-768-11	ELECT	2200uF	20%	16V
C903	1-136-961-11	FILM	0.047uF	10%	160V
C904	1-136-157-00	FILM	0.022uF	5%	50V
C905	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C915	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C925	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C931	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C941-945					
	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
		< CONNECTOR >			
* CN900	1-695-244-21	PLUG, CINNECTOR 15P			
* CN901	1-695-201-11	PLUG, CONNECTOR 15P			
* CN902	1-580-914-11	PLUG, CONNECTOR 12P			
		< DIODE >			
D901	8-719-041-36	DIODE NSD03A40-TE16L			
D931	8-719-034-46	DIODE MA4062-M(QZ)			
		< FUSE >			
F900	1-533-328-11	FUSE (BLADE TYPE) (AUTO FUSE) (5A)			
		< JACK >			
J905	1-691-683-11	JACK, PIN 4P (LINE OUT FRONT, SUB OUT)			
J906	1-691-683-11	JACK, PIN 4P (UNILINK IN AUDIO, LINE OUT REAR)			
		< COIL >			
L901	1-406-723-11	COIL, CHOKE (TROIDAL)			
		< RESISTOR >			
R915	1-216-210-00	METAL GLAZE	3.3K	2%	1/8W
R916	1-216-216-00	METAL GLAZE	5.6K	2%	1/8W
R925	1-216-210-00	METAL GLAZE	3.3K	2%	1/8W
R926	1-216-216-00	METAL GLAZE	5.6K	2%	1/8W
R931	1-216-049-00	METAL CHIP	1K	5%	1/10W
R941	1-216-222-00	METAL GLAZE	10K	2%	1/8W
R942	1-216-206-00	METAL GLAZE	2.2K	2%	1/8W
**********					
*	A-3295-649-A	MAIN BOARD, COMPLETE (AEP)			
*	A-3295-653-A	MAIN BOARD, COMPLETE (G)			
		**********			
		< BUZZER >			
BZ601	1-529-108-21	BUZZER, PIEZOELECTRIC			
		< CAPACITOR >			
C1	1-163-101-00	CERAMIC CHIP	22PF	5%	50V
C2	1-163-101-00	CERAMIC CHIP	22PF	5%	50V
C3	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C4	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C5	1-130-475-00	MYLAR	0.0022uF	5%	50V
C6	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C7	1-164-245-11	CERAMIC CHIP	0.015uF	10%	25V
C8	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C9	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C10	1-126-157-11	ELECT	10uF	20%	16V
C11	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C12	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C13	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C14	1-126-163-11	ELECT	4.7uF	20%	50V
C15	1-164-492-11	CERAMIC CHIP	0.15uF	10%	16V
C16	1-124-234-00	ELECT	22uF	20%	16V
C17	1-124-994-11	ELECT	100uF	20%	10V
C18	1-126-277-11	ELECT	100uF	20%	10V
C19	1-124-994-11	ELECT	100uF	20%	10V
C21	1-126-277-11	ELECT	100uF	20%	10V
C22	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C23-25					
	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C26	1-136-159-00	FILM	0.033uF	5%	50V
C27	1-130-475-00	MYLAR	0.0022uF	5%	50V
C28	1-126-154-11	ELECT	47uF	20%	6.3V
C29	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C30	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C31	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C32-35					
	1-162-953-11	CERAMIC CHIP	100PF	5%	50V
C36	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C37	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C38	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C40	1-126-154-11	ELECT	47uF	20%	6.3V
C41	1-136-227-11	MYLAR	0.001uF	5%	50V
C42	1-130-479-00	MYLAR	0.0047uF	5%	50V

MAIN

Ref. No.	Part No.	Description			Remark
C43	1-136-165-00	FILM	0.1uF	5%	50V
C44	1-136-169-00	FILM	0.22uF	5%	50V
C49	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C51	1-163-018-00	CERAMIC CHIP	0.0056uF	5%	50V
C60	1-124-229-00	ELECT (G) (TYPE 1-3)	33uF	20%	10V
C61	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C79	1-136-156-00	FILM (AEP)	0.018uF	5%	50V
C79	1-136-157-00	FILM (G)	0.022uF	5%	50V
C80	1-136-156-00	FILM (AEP)	0.018uF	5%	50V
C80	1-136-157-00	FILM (G)	0.022uF	5%	50V
C81	1-126-302-11	ELECT	2.2uF	20%	50V
C82	1-126-302-11	ELECT	2.2uF	20%	50V
C85	1-137-189-11	FILM	0.18uF	5%	50V
C87	1-136-164-00	FILM	0.082uF	5%	50V
C100	1-163-275-11	CERAMIC CHIP	0.001uF	5%	50V
C101	1-126-301-11	ELECT	1uF	20%	50V
C102	1-126-301-11	ELECT	1uF	20%	50V
C104	1-126-301-11	ELECT	1uF	20%	50V
C106	1-126-302-11	ELECT	2.2uF	20%	50V
C107	1-126-302-11	ELECT	2.2uF	20%	50V
C108-110	1-163-275-11	CERAMIC CHIP	0.001uF	5%	50V
C111	1-136-164-00	FILM	0.082uF	5%	50V
C112	1-130-475-00	MYLAR	0.0022uF	5%	50V
C113	1-126-295-11	ELECT	10uF	20%	35V
C114	1-130-478-00	MYLAR	0.0039uF	5%	50V
C115	1-126-295-11	ELECT	10uF	20%	35V
C116	1-136-169-00	FILM	0.22uF	5%	50V
C117	1-126-294-11	ELECT	4.7uF	20%	35V
C119	1-126-294-11	ELECT	4.7uF	20%	35V
C120	1-126-294-11	ELECT	4.7uF	20%	35V
C122	1-128-241-11	ELECT	220uF	20%	10V
C127	1-104-551-11	FILM CHIP	0.01uF	5%	16V
C151	1-126-295-11	ELECT	10uF	20%	35V
C153	1-126-295-11	ELECT	10uF	20%	35V
C155	1-126-294-11	ELECT	4.7uF	20%	35V
C200	1-163-275-11	CERAMIC CHIP	0.001uF	5%	50V
C201	1-126-301-11	ELECT	1uF	20%	50V
C202	1-126-301-11	ELECT	1uF	20%	50V
C204	1-126-301-11	ELECT	1uF	20%	50V
C206	1-126-302-11	ELECT	2.2uF	20%	50V
C207	1-126-302-11	ELECT	2.2uF	20%	50V
C208-210	1-163-275-11	CERAMIC CHIP	0.001uF	5%	50V
C211	1-136-164-00	FILM	0.082uF	5%	50V

Ref. No.	Part No.	Description			Remark
C212	1-130-475-00	MYLAR	0.0022uF	5%	50V
C213	1-126-295-11	ELECT	10uF	20%	35V
C214	1-130-478-00	MYLAR	0.0039uF	5%	50V
C215	1-126-295-11	ELECT	10uF	20%	35V
C216	1-136-169-00	FILM	0.22uF	5%	50V
C217	1-126-294-11	ELECT	4.7uF	20%	35V
C219	1-126-294-11	ELECT	4.7uF	20%	35V
C220	1-126-294-11	ELECT	4.7uF	20%	35V
C222	1-128-241-11	ELECT	220uF	20%	10V
C227	1-104-551-11	FILM CHIP	0.01uF	5%	16V
C251	1-126-295-11	ELECT	10uF	20%	35V
C253	1-126-295-11	ELECT	10uF	20%	35V
C255	1-126-294-11	ELECT	4.7uF	20%	35V
C301	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C302	1-126-296-11	ELECT	22uF	20%	35V
C303	1-126-277-11	ELECT	100uF	20%	10V
C304	1-126-301-11	ELECT	1uF	20%	50V
C305	1-124-589-11	ELECT	47uF	20%	16V
C307	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C308	1-104-559-11	FILM CHIP	0.047uF	5%	16V
C401	1-124-242-00	ELECT	33uF	20%	25V
C402	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C403	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C404	1-126-103-11	ELECT	470uF	20%	16V
C500	1-126-541-11	ELECT	330uF	20%	16V
C501	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C502	1-126-153-11	ELECT	22uF	20%	6.3V
C503	1-126-153-11	ELECT	22uF	20%	6.3V
C504	1-163-229-11	CERAMIC CHIP	12PF	5%	50V
C505	1-163-229-11	CERAMIC CHIP	12PF	5%	50V
C506	1-126-157-11	ELECT	10uF	20%	16V
C507	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C510	1-164-222-11	CERAMIC CHIP	0.22uF		25V
C511	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C512	1-104-942-61	ELECT (TYPE 1, 2)	1uF	20%	50V
C513	1-163-038-00	CERAMIC CHIP (TYPE 1, 2)	0.1uF		25V
C514	1-126-163-11	ELECT	4.7uF	20%	50V
C515	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C516	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C519	1-163-809-11	CERAMIC CHIP	0.047uF	10%	25V
C550	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C560	1-163-237-11	CERAMIC CHIP	27PF	5%	50V
C561	1-163-237-11	CERAMIC CHIP	27PF	5%	50V
C562	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C563	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C564	1-163-127-00	CERAMIC CHIP	270PF	5%	50V
C569	1-126-157-11	ELECT	10uF	20%	16V

Ref. No.	Part No.	Description			Remark
C574	1-163-037-11	CERAMIC CHIP	0.022uF	10%	25V
C577	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C578	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C580	1-125-705-11	DOUBLE LAYERS	0.22F		5.5V
C581	1-162-995-11	CERAMIC CHIP	0.022uF		50V
C582	1-124-584-00	ELECT	100uF	20%	10V
C590	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C591	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C592	1-163-989-11	CERAMIC CHIP	0.033uF	10%	25V
C601	1-124-234-00	ELECT	22uF	20%	16V
C603	1-124-589-11	ELECT	47uF	20%	16V
C604	1-124-589-11	ELECT	47uF	20%	16V
C605	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C607	1-126-277-11	ELECT	100uF	20%	10V
C608	1-126-277-11	ELECT	100uF	20%	10V
C609	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C610	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C611	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C620	1-126-157-11	ELECT	10uF	20%	16V
C621	1-135-138-11	TANTAL. CHIP	10uF	20%	25V
C651	1-126-163-11	ELECT	4.7uF	20%	50V

< CONNECTOR >

* CN301	1-695-202-11	SOCKET, CONNECTOR 15P	
* CN302	1-580-916-11	SOCKET, CONNECTOR 12P	
* CN401	1-750-218-21	CONNECTOR (HOUSING) 18P	
CN402	1-691-591-11	PIN, CONNECTOR (1.5MM) (SMD) 8P	
CN551	1-580-907-11	PLUG, CONNECTOR (UNILINK IN CONTROL)	
CN571	1-750-621-11	PLUG, CONNECTOR (14P-L)	

< DIODE >

D1	8-719-971-18	DIODE	1SS318
D2	8-719-971-18	DIODE	1SS318
D3	8-719-034-63	DIODE	MA4091-H(QZ)
D4	8-719-034-42	DIODE	MA4056-M(QZ)
D6	8-719-041-79	DIODE	MA721WA-TX
D7	8-719-041-79	DIODE	MA721WA-TX
D101	8-719-034-22	DIODE	MA4039-M(QZ)
D250	8-719-404-49	DIODE	MA111
D302	8-719-404-49	DIODE	MA111
D303	8-719-027-48	DIODE	MA142WA
D304	8-719-404-49	DIODE	MA111
D305	8-719-034-46	DIODE	MA4062-M(QZ)
D306	8-719-034-46	DIODE	MA4062-M(QZ)
D401	8-719-801-78	DIODE	1SS184
D402	8-719-034-63	DIODE	MA4091-H(QZ)
D403	8-719-404-49	DIODE	MA111
D404	8-719-404-49	DIODE	MA111
D405	8-719-404-49	DIODE	MA111
D501	8-719-027-48	DIODE	MA142WA
D502	8-719-404-49	DIODE	MA111
D551	8-719-034-49	DIODE	MA4068-L(QZ)
D552	8-719-034-46	DIODE	MA4062-M(QZ)
D553	8-719-034-46	DIODE	MA4062-M(QZ)
D554	8-719-404-49	DIODE	MA111
D555	8-719-404-49	DIODE	MA111
D556	8-719-034-46	DIODE	MA4062-M(QZ)
D571	8-719-034-46	DIODE	MA4062-M(QZ)
D572	8-719-034-46	DIODE	MA4062-M(QZ)
D573	8-719-034-46	DIODE	MA4062-M(QZ)
D574	8-719-034-46	DIODE	MA4062-M(QZ)
D575	8-719-034-46	DIODE	MA4062-M(QZ)
D576	8-719-034-46	DIODE	MA4062-M(QZ)
D577	8-719-034-46	DIODE	MA4062-M(QZ)
D578	8-719-034-46	DIODE	MA4062-M(QZ)
D580	8-719-034-70	DIODE	MA4110-M(QZ)
D582	8-719-027-48	DIODE	MA142WA
D583	8-719-400-20	DIODE	MA152WA
D584	8-719-404-49	DIODE	MA111
D601	8-719-034-42	DIODE	MA4056-M(QZ)
D602	8-719-034-98	DIODE	MA4200-M(QZ)
D651	8-719-027-50	DIODE	MA142WK
D652	8-719-034-90	DIODE	MA4160-M(QZ)
D653	8-719-034-54	DIODE	MA4075-M(QZ)

< FERRITE BEAD >

FB503	1-414-233-21	INDUCTOR, FERRITE BEAD (TYPE 1, 2)
FB601-603	1-414-233-21	INDUCTOR, FERRITE BEAD

< IC >

IC1	8-759-069-48	IC	LA1061M
IC2	8-759-823-81	IC	LC7216M
IC3	8-759-998-98	IC	LM358D
IC4	8-759-242-66	IC	TC4W66F
IC10	8-759-711-82	IC	NJM4580E
IC11	8-759-711-82	IC	NJM4580E
IC101	8-752-063-44	IC	CXA1646Q
IC102	8-759-165-34	IC	TC9212F(ELP)
IC106	8-759-700-94	IC	NJM5532M
IC107	8-759-711-82	IC	NJM4580E
IC108	8-759-711-82	IC	NJM4580E
IC109	8-759-711-82	IC	NJM4580E
IC110	8-759-711-82	IC	NJM4580E
IC401	8-759-823-87	IC	LB1638M
IC501	8-759-189-20	IC	uPD75518GF-131-3B9

MAIN

Ref. No.	Part No.	Description	Remark
IC502	8-759-191-96	IC MN1882417SNU1 (TYPE 1)	
IC502	8-759-259-09	IC MN1882417SNU2 (TYPE 2)	
IC502	8-759-283-34	IC MN1883220SZE (TYPE 3)	
IC502	8-759-330-63	IC MN1883220SZF (TYPE 4)	
IC504	8-759-168-53	IC LH5116N3 (TYPE 1, 2)	
IC505	8-759-231-33	IC SC7S00F (TYPE 1, 2)	
IC506	8-759-163-63	IC TDA7330BD-013TR	
IC551	8-759-096-16	IC MM1175XF-T1	
IC571	8-759-167-83	IC PST600EMT-T1	
IC601	8-759-182-75	IC BA3910B-V2	
		< JACK >	
J1	1-750-617-11	JACK (ANTENNA)	
J301	1-566-822-11	JACK (REMOTE IN)	
		< COIL >	
L1	1-410-201-51	INDUCTOR CHIP 5.6uH	
L2	1-410-521-11	INDUCTOR 100uH	
L3	1-410-204-31	INDUCTOR CHIP 10uH	
L501	1-410-204-31	INDUCTOR CHIP 10uH	
L502	1-410-509-61	INDUCTOR 10uH (TYPE 1, 2)	
L504	1-410-509-61	INDUCTOR 10uH	
L505	1-410-204-31	INDUCTOR CHIP 10uH	
		< TRANSISTOR >	
Q2	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q3	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q4	8-729-230-60	TRANSISTOR 2SA1586-YG	
Q5	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q6	8-729-021-94	TRANSISTOR 2SK1657-T1B	
Q8	8-729-021-95	TRANSISTOR RN1441-A(TE85L)	
Q9	8-729-021-95	TRANSISTOR RN1441-A(TE85L)	
Q10	8-729-021-95	TRANSISTOR RN1441-A(TE85L)	
Q11	8-729-015-74	TRANSISTOR UN5111	
Q12	8-729-421-22	TRANSISTOR UN2211	
Q61	8-729-421-22	TRANSISTOR UN2211 (G) (TYPE 1-3)	
Q101	8-729-021-95	TRANSISTOR RN1441-A(TE85L)	
Q102	8-729-021-95	TRANSISTOR RN1441-A(TE85L)	
Q151	8-729-021-95	TRANSISTOR RN1441-A(TE85L)	
Q201	8-729-021-95	TRANSISTOR RN1441-A(TE85L)	
Q202	8-729-021-95	TRANSISTOR RN1441-A(TE85L)	
Q251	8-729-021-95	TRANSISTOR RN1441-A(TE85L)	
Q301	8-729-424-08	TRANSISTOR UN2111	
Q302	8-729-021-93	TRANSISTOR uPA502T-T1	
Q401	8-729-807-12	TRANSISTOR 2SD1802-S	
Q402	8-729-020-67	TRANSISTOR XN1A312-TX	
Q403	8-729-106-60	TRANSISTOR 2SB1115A	
Q404	8-729-421-22	TRANSISTOR UN2211	
Q405	8-729-421-22	TRANSISTOR UN2211	

Ref. No.	Part No.	Description	Remark
Q502	8-729-020-67	TRANSISTOR XN1A312-TX	
Q551	8-729-403-35	TRANSISTOR UN5113	
Q552	8-729-231-74	TRANSISTOR 2SC4116-GL	
Q553	8-729-015-74	TRANSISTOR UN5111	
Q571	8-729-020-67	TRANSISTOR XN1A312-TX	
Q572	8-729-807-12	TRANSISTOR 2SD1802-S	
Q573	8-729-807-12	TRANSISTOR 2SD1802-S	
Q574	8-729-807-12	TRANSISTOR 2SD1802-S	
Q575	8-729-807-12	TRANSISTOR 2SD1802-S	
Q576	8-729-015-76	TRANSISTOR UN5211	
Q577	8-729-106-60	TRANSISTOR 2SB1115A	
Q578	8-729-920-56	TRANSISTOR FMG1	
Q579	8-729-020-67	TRANSISTOR XN1A312-TX	
Q601	8-729-807-12	TRANSISTOR 2SD1802-S	
Q602	8-729-421-22	TRANSISTOR UN2211	
Q650	8-729-421-22	TRANSISTOR UN2211	
Q651	8-729-231-74	TRANSISTOR 2SC4116-GL	
		< RESISTOR >	
R1	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R2	1-216-829-11	METAL CHIP 4.7K 5% 1/16W	
R4	1-216-840-11	METAL CHIP 39K 5% 1/16W	
R5	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R6	1-216-857-11	METAL CHIP 1M 5% 1/16W	
R7	1-216-834-11	METAL CHIP 12K 5% 1/16W	
R8	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R9	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R10	1-216-842-11	METAL CHIP 56K 5% 1/16W	
R11	1-216-842-11	METAL CHIP 56K 5% 1/16W	
R12	1-218-293-11	METAL GLAZE 24K 5% 1/16W	
R13	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R14	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R15	1-216-821-11	METAL CHIP 1K 5% 1/16W	
R16	1-216-845-11	METAL CHIP 100K 5% 1/16W	
R19	1-216-081-00	METAL CHIP 22K 5% 1/10W	
R20	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R21	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R22	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R23	1-216-075-00	METAL CHIP 12K 5% 1/10W	
R24	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R25	1-216-833-11	METAL CHIP 10K 5% 1/16W	
R27	1-216-827-11	METAL CHIP 3.3K 5% 1/16W	
R30	1-216-113-00	METAL CHIP 470K 5% 1/10W	
R31	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R32	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R33	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R34	1-216-119-00	METAL CHIP 820K 5% 1/10W	
R35	1-216-815-11	METAL CHIP 330 5% 1/16W	
R41	1-216-073-00	METAL CHIP 10K 5% 1/10W	

Ref. No.	Part No.	Description			Remark
R42	1-216-089-00	METAL CHIP	47K	5%	1/10W
R43	1-216-065-00	METAL CHIP	4.7K	5%	1/10W (AEP)
R43	1-216-073-00	METAL CHIP	10K	5%	1/10W (G)
R44	1-216-089-00	METAL CHIP	47K	5%	1/10W
R60	1-216-045-00	METAL CHIP	680	5%	1/10W
R61	1-216-049-00	METAL CHIP	1K	5%	1/10W
R81	1-216-208-00	METAL GLAZE	2.7K	2%	1/8W (G)
R81	1-216-671-11	METAL CHIP	6.8K	0.5%	1/10W (AEP)
R82	1-216-208-00	METAL GLAZE	2.7K	2%	1/8W (G)
R82	1-216-671-11	METAL CHIP	6.8K	0.5%	1/10W (AEP)
R83	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W
R85	1-216-663-11	METAL CHIP	3.3K	0.5%	1/10W
R87	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W
R88	1-216-667-11	METAL CHIP	4.7K	0.5%	1/10W
R109	1-216-214-00	METAL GLAZE	4.7K	2%	1/8W
R110	1-216-214-00	METAL GLAZE	4.7K	2%	1/8W
R111	1-216-841-11	METAL CHIP	47K	5%	1/16W
R112	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R113	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R114	1-216-073-00	METAL CHIP	10K	5%	1/10W
R115	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R116	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R117	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R118	1-216-833-11	METAL CHIP	10K	5%	1/16W
R119	1-216-834-11	METAL CHIP	12K	5%	1/16W
R121	1-216-234-00	METAL GLAZE	33K	2%	1/8W
R122	1-216-234-00	METAL GLAZE	33K	2%	1/8W
R123	1-216-182-00	METAL GLAZE	220	2%	1/8W
R124	1-216-182-00	METAL GLAZE	220	2%	1/8W
R125	1-216-216-00	METAL GLAZE	5.6K	2%	1/8W
R126	1-216-210-00	METAL GLAZE	3.3K	2%	1/8W
R127	1-216-216-00	METAL GLAZE	5.6K	2%	1/8W
R128	1-216-210-00	METAL GLAZE	3.3K	2%	1/8W
R151	1-216-210-00	METAL GLAZE	3.3K	2%	1/8W
R152	1-216-216-00	METAL GLAZE	5.6K	2%	1/8W
R153	1-216-182-00	METAL GLAZE	220	2%	1/8W
R154	1-216-234-00	METAL GLAZE	33K	2%	1/8W
R209	1-216-214-00	METAL GLAZE	4.7K	2%	1/8W
R210	1-216-214-00	METAL GLAZE	4.7K	2%	1/8W
R211	1-216-841-11	METAL CHIP	47K	5%	1/16W
R212	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R213	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R214	1-216-073-00	METAL CHIP	10K	5%	1/10W
R215	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R216	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R217	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R218	1-216-833-11	METAL CHIP	10K	5%	1/16W
R219	1-216-834-11	METAL CHIP	12K	5%	1/16W
R221	1-216-234-00	METAL GLAZE	33K	2%	1/8W
R222	1-216-234-00	METAL GLAZE	33K	2%	1/8W
R223	1-216-182-00	METAL GLAZE	220	2%	1/8W
R224	1-216-182-00	METAL GLAZE	220	2%	1/8W
R225	1-216-216-00	METAL GLAZE	5.6K	2%	1/8W
R226	1-216-210-00	METAL GLAZE	3.3K	2%	1/8W
R227	1-216-216-00	METAL GLAZE	5.6K	2%	1/8W
R228	1-216-210-00	METAL GLAZE	3.3K	2%	1/8W
R251	1-216-210-00	METAL GLAZE	3.3K	2%	1/8W
R252	1-216-216-00	METAL GLAZE	5.6K	2%	1/8W
R253	1-216-182-00	METAL GLAZE	220	2%	1/8W
R254	1-216-234-00	METAL GLAZE	33K	2%	1/8W
R301	1-216-085-00	METAL CHIP	33K	5%	1/10W
R302	1-216-017-00	METAL CHIP	47	5%	1/10W
R305	1-216-214-00	METAL GLAZE	4.7K	5%	1/8W
R306	1-216-214-00	METAL GLAZE	4.7K	5%	1/8W
R401	1-216-049-00	METAL CHIP	1K	5%	1/10W
R402	1-220-149-11	METAL GLAZE	2.2	10%	1/2W
R403	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R404	1-216-073-00	METAL CHIP	10K	5%	1/10W
R405	1-216-186-00	METAL GLAZE	330	5%	1/8W
R406	1-216-186-00	METAL GLAZE	330	5%	1/8W
R502	1-216-845-11	METAL CHIP	100K	5%	1/16W
R507	1-216-837-11	METAL CHIP	22K	5%	1/16W
R510	1-216-049-00	METAL CHIP	1K	5%	1/10W
R515	1-216-097-00	METAL CHIP (TYPE 1)	100K	5%	1/10W
R516	1-216-097-00	METAL CHIP (TYPE 1)	100K	5%	1/10W
R520	1-218-716-11	METAL CHIP	10K	0.50%	1/16W
R522	1-218-716-11	METAL CHIP	10K	0.50%	1/16W
R523	1-216-097-00	METAL CHIP	100K	5%	1/10W
R524	1-216-097-00	METAL CHIP	100K	5%	1/10W
R525	1-216-845-11	METAL CHIP	100K	5%	1/16W
R527	1-216-089-00	METAL CHIP	47K	5%	1/10W
R528	1-216-089-00	METAL CHIP	47K	5%	1/10W (G)
R530	1-216-089-00	METAL CHIP	47K	5%	1/10W (AEP)
R531	1-216-097-00	METAL CHIP	100K	5%	1/10W
R532-539	1-216-097-00	METAL CHIP (TYPE 1, 2)	100K	5%	1/10W
R540	1-216-049-00	METAL CHIP	1K	5%	1/10W
R541	1-216-097-00	METAL CHIP	100K	5%	1/10W
R542	1-216-097-00	METAL CHIP	100K	5%	1/10W
R543	1-216-864-11	METAL CHIP	0	5%	1/16W
R544	1-216-097-00	METAL CHIP (TYPE 1, 2)	100K	5%	1/10W
R544	1-216-296-00	METAL CHIP (TYPE 3, 4)	0	5%	1/8W
R547	1-216-845-11	METAL CHIP	100K	5%	1/16W
R548	1-216-837-11	METAL CHIP	22K	5%	1/16W

MAIN

Ref. No.	Part No.	Description			Remark
R549	1-216-837-11	METAL CHIP	22K	5%	1/16W
R550	1-216-081-00	METAL CHIP	22K	5%	1/10W
R551	1-216-025-00	METAL CHIP	100	5%	1/10W
R552	1-216-025-00	METAL CHIP	100	5%	1/10W
R553	1-216-073-00	METAL CHIP	10K	5%	1/10W
R554	1-216-089-00	METAL CHIP	47K	5%	1/10W
R555	1-216-841-11	METAL CHIP	47K	5%	1/16W
R556	1-216-845-11	METAL CHIP	100K	5%	1/16W
R565	1-216-129-00	METAL CHIP	2.2M	5%	1/10W
R566	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R571	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R573	1-216-025-00	METAL CHIP	100	5%	1/10W
R575	1-216-809-11	METAL CHIP	100	5%	1/16W
R576	1-216-809-11	METAL CHIP	100	5%	1/16W
R577	1-216-017-00	METAL CHIP	47	5%	1/10W
R579	1-216-200-11	METAL GLAZE	1.2K	5%	1/8W
R580-583					
	1-216-298-00	METAL CHIP	2.2	5%	1/10W
R584	1-216-833-11	METAL CHIP	10K	5%	1/16W
R586	1-216-206-00	METAL GLAZE	2.2K	5%	1/8W
R587	1-218-716-11	METAL CHIP	10K	0.50%	1/16W
R588	1-218-716-11	METAL CHIP	10K	0.50%	1/16W
R589	1-216-837-11	METAL CHIP	22K	5%	1/16W
R590	1-216-845-11	METAL CHIP	100K	5%	1/16W
R592	1-216-845-11	METAL CHIP	100K	5%	1/16W
R599	1-216-097-00	METAL CHIP (TYPE 1)	100K	5%	1/10W
R601	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R602	1-216-049-00	METAL CHIP	1K	5%	1/10W
R603	1-216-037-00	METAL CHIP	330	5%	1/10W
R650	1-216-206-00	METAL GLAZE	2.2K	5%	1/8W
R653	1-216-841-11	METAL CHIP	47K	5%	1/16W
R654	1-216-841-11	METAL CHIP	47K	5%	1/16W
R655	1-216-838-11	METAL CHIP	27K	5%	1/16W
R656	1-216-845-11	METAL CHIP	100K	5%	1/16W
		< RESISTOR NETWORK >			
RB171	1-239-426-11	RESISTOR, NETWORK (CHIP TYPE)	(2.2KX4)		
RB504	1-239-426-11	RESISTOR, NETWORK (CHIP TYPE)	(2.2KX4)		
RB508	1-236-907-11	RESISTOR, NETWORK (CHIP TYPE)	(100KX4)		
RB512	1-236-907-11	RESISTOR, NETWORK (CHIP TYPE)	(100KX4)		
RB516	1-236-907-11	RESISTOR, NETWORK (CHIP TYPE)	(100KX4)		
RB520-525					
	1-236-907-11	RESISTOR, NETWORK (CHIP TYPE) (TYPE 1)	(100KX4)		
RB571	1-239-426-11	RESISTOR, NETWORK (CHIP TYPE)	(2.2KX4)		
		< VARIABLE RESISTOR >			
RV10	1-238-605-31	RES, ADJ, CARBON 470K			

Ref. No.	Part No.	Description	Remark
		< SWITCH >	
S1	1-572-272-11	SWITCH, SLIDE (DIVERSITY)	
S501	1-572-272-11	SWITCH, SLIDE (POWER SELECT)	
S510	1-572-288-11	SWITCH, PUSH (NOSE)	
		< VIBRATOR >	
X1	1-567-848-11	VIBRATOR, CRYSTAL (7.2MHz)	
X502	1-567-821-11	VIBRATOR, CRYSTAL (4.19MHz)	
X503	1-579-242-11	VIBRATOR, CRYSTAL (4.332MHz)	
X504	1-579-952-21	VIBRATOR, CERAMIC (8MHz)	

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9-957-987-81

Sony Corporation
Mobile Electronics Company

English
94K0444-1
Printed in Japan
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Published by Home A & V Products Div.
Quality Engineering Dept.